Foreign Direct Investment and Economic Development: Evidence from Selected African Countries

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CERTIFICATION

This is to certify that this study was carried out by Adegboye, Folasade Bosede of the Department of Banking and Finance, School of Business, College of Development Studies, Covenant University, Ota, Nigeria, under our supervision and that it has not been submitted for the award of any degree in this or any other University.

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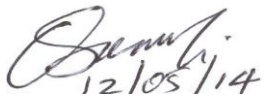

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DECLARATION

It is thereby declared that this research work was undertaken by Adegboye, Folasade Bosede. This thesis titled: "Foreign Direct Investment and Economic Development: Evidence from selected African Countries", is based on original study in the Department of Banking and Finance, School of Business, College of Development Studies, Covenant University, Ota, under the supervision of Distinguished Prof. J.A.T Ojo and Prof. O.F. Ayadi. The ideas and views of this research work are those of Adegboye, Folasade Bosede, and the views of other researchers have been duly acknowledged.

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DEDICATION

This work is dedicated to the Almighty God, the all sufficient one, the one with whom there is neither variableness nor shadow of turning.

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ADR	African Development Report
BOP	Balance of payment
DSGE	Dynamic Stochastic General Equilibrium Model
ECM	Error Component Model
FDI	Foreign Direct Investment
GAC	Growth Assistance Committee
GDP	Gross Domestic Product
HDI	Human Development Index
HDR	Human Development Reports
ILO	International Labour Organisation
IV	Instrumental Variable
LSDV	Least Square Dummy Variables
MENA	Middle East and North Africa
MNE	Multi-National Enterprises
NFA	Net Foreign Asset
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
RE	Random Effects
REM	Random Effect Model
SHD	Sustainable Human Development
SL	Sustainable Livelihood

SSA	Sub-Saharan Africa
SUR	Seemingly Unrelated Regression
TNC	Transnational Corporations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
WDI	World Development Indicators

ABSTRACT

Africa unlike other developing regions of the world has experienced declining flows of foreign direct investment (FDI), despite the apparently high investment returns rates. As FDI flows, it is expected that existing gaps of productive factors are gradually closed and dependence on foreign capital is reduced. These increases in domestic savings, investment, skills and technology bring about economic development. The study examined the declining flow of FDI to the African regions as well as the impact that it has in relation to the domestic sector investment and economic development of the region. It also analysed the impact of FDI flows on economic development of countries with both lower income per capita and low inflow of foreign funds. In addition, it examined the impact of rate of return of investment in relation to the flow of FDI and the impact of FDI in relation to closing investment and foreign exchange gaps. The study made use of pooled data from thirty nine African countries within the period 1993 and 2012.The method of analysis utilized for the study was the fixed effect least-square dummy variable model, employed to estimate the impact of foreign direct investment on economic development for the host African countries, and the lowess smoother non-parametric analysis to estimate the impact of FDI in relation to closing gaps of investment and foreign exchange. The study finds that foreign direct investment is statistically significant in relation to economic development for host African countries. It also finds that FDI is significant in relation to economic development in African sub-regions that accessed lower flow of foreign funds. This lower flow was the probable reason for lesser dependence on foreign capital which resulted in conscious development of the domestic sector investment, thereby resulting into increased economic activities and therefore economic development. It was again determined from the analysis that the apparently high rate of return on investment has no positive effect on FDI inflow and the inflow of FDI has not closed the investment and foreign exchange gaps of the host African countries. Also from the study, it is deduced that FDI is significant on economic development for African countries with lower income per capita. The study recommends that the government of host countries should consider closely the sectors that FDI flows into, encourage domestic investment in such sectors, and reduce dependence on FDI flows as income increases. Also concerted effort is to be made to gradually close the gaps of productive factors by increasing domestic investment, increasing investment into research and development to improve skill with technology, encourage exports, reduce imports and encourage a sustainable environment.

CHAPTER ONE

INTRODUCTION

1.1. Background to the Study

This study focused on foreign direct investment in African countries, growth and development in the region. Over the past four decades, foreign direct investment (FDI) in the region of Africa has been erratic and chaotic in nature. The volume of FDI has increased relatively over the past four decades in the African region. The pattern of flow has been that of sharp increases followed by sharp decreases in subsequent years. Also, the flow of FDI to African region has declined in comparison to other developing regions in the world over the years; this therefore is reason for the increase being regarded as relative. For instance, in 1980; of the FDI flows to developing regions of the world, only 5 percent was received by Africa, 86 percent - Latin America, and 7 percent Asia. By 1990, Africa had 8 percent proportion of flow, Latin America 26 percent while Asia had 65 percent. Even in 2010, Africa received 10 percent of FDI to developing regions, Latin America 28 percent and Asia 62 percent. This characterized the flow of capital to Africa as the increase in capital flow was not in the same proportion as other developing regions of the world.

In the 1970's and early 1980's, the highest proportion of total FDI in the African region came to West Africa; for instance in 1971 it had 55.4 percent; 1973; 74.5 percent; and 1975; 91.5 percent. Even in the 1990's the West African sub-region had the highest proportion of total FDI in the region. The North African sub-region has received also a high proportion of total FDI next to the West African sub-region within the 1970's and 1980's. During the late 1980's and between 2005 and 2010, the Northern African sub-region enjoyed the highest proportion of flow of foreign

capital to the region. The highest proportion of flow of foreign capital drifted to the central African sub-region in 1999, this was also the case between 2002 and 2004. On average, the sub-region had access to 19.8 percent of total FDI to the region over the past four decades. The East African sub-region had accessed an average of 10.6 percent of flow of FDI. Like East Africa, South Africa has also received only very low percentage of total FDI flow into Africa. An average percentage of only 9.2 percent, though strikingly, the sub-region had the highest percentage proportion of total FDI in year 1974, 1997, and 2001. Overall, the West African sub-region benefited the highest proportion of total FDI with a percentage of 31.3 percent, followed by the North African sub-region, with a proportion of 29.1 percent. The proportion of West and North Africa put together amounted to over 60 percent of total FDI for the entire African countries, which implies that the two sub-regions together had a greater share than the other three sub-regions put together (UNCTAD, 2012).

The rate of return on FDI per region in the world has been interesting such that, the developing countries show greatest potential of return on investments in their countries and therefore should attract more foreign capital. For the African region, there is an average of 22.6 percent rate of return on FDI; the primary sector over the years had an average of 21 percent, the secondary sector had an average of 19.2 percent, the tertiary sector an average of 13.8 percent and other industries an average of 23.5 percent. This evidently shows that FDI is no longer concentrated in the primary sector as it earlier was the case. Nigeria in 1992 had FDI in the primary sector a little over 30 percent, manufacturing almost 50 percent and services close to 20 percent. Egypt in 1995 had FDI at 45 percent in services, 47 percent in manufacturing and 4 percent in the primary sector.

The expected impact of flow of foreign capital has not been seen in the African region despite the relative increase in volume. For instance, an increase of 23 percent

of (FDI) in the East African sub-region in 1992, compared to a fall of 69 percent in1991 resulted in gross domestic product (GDP) falling further from a 1.9 percent decrease to an 8 percent decrease in 1992. In the Western sub-region of Africa, for a 40.5 percent increase in FDI in 1996 compared to a decrease of 33 percent the preceding year, an outcome of a 6.8 percent fall in GDP was experienced from what obtained in the preceding year. Also in Central Africa in 1999, a rise in FDI by 14 percent from a drop of 21 percent the preceding year resulted in a further fall in GDP from 4.5 percent the previous year to 1.5 percent. In year 2006, there was a rise in FDI from 18 percent the preceding year to about 28 percent, yet the sub-region experienced a fall in GDP from about 30 percent to 22 percent. The flow of foreign capital also is expected to increase domestic investment. This has not been the case over the years in the African countries. In Djibouti for instance, in the East African sub-region, there was an increase in FDI by 3 percent in 2001 over the preceding year, whereas the domestic investment indicator had a sharp decline of 30 percent. Similarly, in Nigeria the West African sub-region, between 2004 and 2005; FDI increased by 134 percent yet domestic investment fell by 6 percent during the period. In the Northern African sub-region, Egypt precisely, between 2003 and 2004 experienced over 800 percent increase in FDI, but domestic investment was seen to decline by over 6 percent within the period.

The traditional catalysts for growth are foreign capital flow, physical investment, education, human capital growth, productivity, high savings rate, macroeconomic stability and openness to trade. (Rao, Tamazian, Singh, & Vadlamannati, 2008). The degree of international flow has been on the increase over the past few decades. Capital has increasingly flowed both among industrialzed economies, and also, to developing economies. It has been established that FDI flow to developing countries has resulted into the dynamics of the 'pull' and push factors. The peculiar policy issues of developing economies, ranging from high degree of privatization to the easing up of domestic capital market results into the 'pull factor. On the other hand,

the push factors are accouted for by changes in macroeconimc policies of the various countries. (Prasad, Rogoff, Wei, & Kose, 2003).

Razin and Rose (1994) and Buch, Dopke, and Pierdzioch (2002) reported that: the crisis period of the global economic downswing also brought along with it short lived distruption, however, it experienced increasing flow of capital to the developing regions. They also highlighted the importance of international capital flows emphasizing the seemingly unpredictable characteristics of its factors. They highlighted very importantly the fact that FDI is more predictable than bank borrowing and portfolio flows. The study stresses that the constituent of capital flows can have a substantial effect on a country's exposure to financial crises.

According to Kose, Prasad, and Terrones (2003), the main gains of foreign capital flow is better capital circulation and reduction of unpredictability of consumption. Developing economies have more to gain in the capital flow process because of their inbuilt unpredictability and evident unavailable physical capital. Policies of developing economies need to take stock of both the risk and benefit analysis of foreign capital flows with indepth grasp of the implications on growth. There has been a conscientious arguement on the economic effect of foreign capital flow on growth and development. On the whole, despite its challenges, the lasting gain of financial integration is such that economies that have practiced it have improved than those who have not, by affording better living standard for its populace.

Eozenou (2008) argues that the upsurge in foreign capital flow at the latter part of the 1980s and 1990s resulted into major source of capital for developing economies. The liberalization of capital market was obvious source of of investment and capital buildup, especially in countries characterized with the savings gap. It was also seen to result into better distribution of capital, by improving orderliness of the market and better performance of banks. All these put together should lower the investment

cost and therefore promote growth, which is required for development. Porfolio variegation and global risk allocation makes it possible for firms to have more balanced investment at the lowest possible risk.

Arestis, Nissanke, and Stein (2005), conducted a study and it was summed that, the benefits of drawing foreign capital depends largely on the level of globalization obtainable per time. A number of global crisis which have affected both the least developed and emerging economies bring with it conditionalities, inherent constraints and policy recommendation that do not foster the needed synergy between investment and economic growth. Though a wide spread crises is experienced in the financial sector due to poor implementation of policy, conversely, the required grounding and indepth understanding of foundational conditions need to be obtained for establishing and improving the financial sector for economic growth.

The science of economics however, portends that capital should flow from developed economies to least developed economies. The least developed countries are characterized with low income, savings, and limited capital available comparative to labour. This invariably, translates to opportunity for high rate of return on investment for foreign capital that flows into such economies. This implies that the crop of investors in the surplus unit of developed economies should take advantage of developing economies for viable investment opportunities. This however is contrary to real life experiences as minimal capital actually flow from the developed economies to the least developed economies. This was highlighted vividly in the "Lucas Paradox." Quite a number of justifications were made considering issues bothering on variation of labour supply between the developed and the least developed economies as well as the lack of success in international capital markets being responsible for the deficiency of flows. However, all these constituents put together still cannot quantifiably account for the practical scarcity of capital flows

relative to what is expected, in particular as expressly stated by the neoclassical growth model.

Also, in the research of Prasad, Rajan, and Subramanian (2007), it was also argued that; flows of foreign capital from developed to least developed countries are essential for supplementing the capital accumulated thereby improving earnings in the least developed countries. They stated that since FDI brings with it technological advancement, if foreign flow is in the form of FDI, the effect of such flow will be significant. It is expected that the narrowing down of the gap of income per capita results from large inflow of FDI from developed to developing countries. This however is not the true picture as the existent gap of standard of living is widened rather than closed between the developed and developing countries.

1.2. Statement of Research Problem

The picture of Africa as regarding attraction for FDI has rather been unfavourable. Prior to the 1980's, Africa had attracted more of FDI than other developing countries in Asia, Latin America, and the even the Caribbean. Although, the ratio of FDI to GDP improved for a greater proportion of the period between 1970 and 2010, by 1990 Africa was lagging behind other developing regions and this has been the position ever since. This even became more prominent all through the 1990's when the region was sidetracked by the global FDI flows into the least developed regions of the world. Africa is still thrusting to compensate for lost grounds during the 1970's and the 1980's inspite the seeming stabilization of inflow in the mid 1990's.

The African region like other developing regions of the world are characterised by limiting factors of skills, savings and foreign exchange gap. The flow of FDI should bring with it, foreign skills and technology to reduce the skills limit by technology diffusion, while investment will reduce the savings limit and equally the foreign exchange limit. The augmentation of domestic savings and inflow of foreign capital

can enhance new capital formation and investment for a country. Since the FDI net inflow enhances investment, if sustained, it increases growth, and per capita income. This subsequently would push domestic savings higher and likewise domestic investment is accelerated, thereby gradually closing the savings gap. This would create a resultant effect of reducing dependence on FDI and thereby bring about development of the economy. However for Africa, the gaps are becoming incessantly wider instead of closing up as experienced by other developing regions like Asia. The desired sustained increase in growth and per capita income is not achieved to lead to increased savings and investment. This will make economic development farfetched, as FDI does not successfully substitute for limited local factors to permit increase in total output.

It is expected that FDI will flow to countries that rewards with a higher rate of return on capital (Asiedu, 2002). The rate of return on capital for Africa has been rising more rapidly than other developing regions in the world.

The lower the per capita income the better prospects for FDI in the host country (Jaspersen, Aylward, & Knox, 2000). Low per capita income results in low domestic savings, and this invariably creates a wide gap between savings and investment, which needs to be closed by the flow of foreign capital to enable the country invest more than it saves. This therefore means that for developing regions with low income per capita, it is expected that a higher rate of return on capital is obtained, as an inverse relationship is said to exist between income per capita and rate of return on capital. Regardless of these, the flow of capital to the African region has been declining compared with other developing regions of the world.

Africa has frequently been associated with incidences of civil disturbances, hunger, deadly diseases, and economic chaos. This has misrepresented Africa to likely intending investors. This probably is a possible indication why the FDI net inflow in

the African region has been erratic. The continent has not fared as well as other developing regions in the past four decades as economic growth has been low, and stagnation or even decline in output characterises the experience of a number of African countries. There has been no evidential benefit derived from flow of foreign capital by developing the African region. The sector that foreign investment flows into is important to generate desired impact of industrialization, which results in increase in total output.

The region has been characterised with relatively increased inflows of foreign investment, however, no visible improvement in domestic investment, growth indicators, and development is patently seen in the sub-regions. This evidently implies that foreign investment has not flowed into the right sectors which could enhance increased output and results in desired growth. It thereby has not been accountably beneficial as expected even though, foreign direct investment is noted as one of the most important channels of growth in an economy. Countries that have accessed flow of foreign capital have been said to have done better than countries that have not, in terms of improvement in per capita income and standard of living (Rao et.al, 2008).

Foreign direct investment can promote the development of host domestic economic sector, with discipline on macroeconomic policies. The entry of foreign capital increases competition, boosts efficiency, enhances technological advancement, enhances domestic investment and reduces overhead cost. This aids in stimulating economic activities, not only by reason of the foreign investment but also by invigorating domestic investment which further engenders increase in economic activities, thereby ensuring maximal utilization of resources, with the resultant effect of national growth and development. The stimulating environment for development has therefore been inaccessible despite the anticipated prospects, due probably to

likely paucity of economic activities, coupled with macroeconomic instability and other social challenges which are peculiar to developing economies.

1.3. Research Questions

In view of the above, these research questions are hereby highlighted;

1. How does the flow of foreign direct investment impact economic development in host African countries?
2. What effect does the apparently attractive rate of return on investment have on inflow of foreign direct investment to African countries?
3. To what extent has the investment and foreign exchange gaps of host economies been closed by net inflow of FDI?

1.4.Objectives of the Study

The broad objective of the study was to determine the impact of foreign direct investment on economic development of African countries.
The specific objectives of the study are, to:

1. analyse the impact of the flow of foreign direct investment on economic development of host African countries;
2. investigate the effect that the apparently attractive rate of return on investment has on inflow of foreign direct investment to African countries; and
3. appraise the impact of net inflow of FDI on closing the investment and foreign exchange gaps of host African countries.

1.5. Research Hypotheses

1. H_0: Flow of foreign direct investment has no significant impact on economic development of host African countries;

2. H_0: The apparently attractive rate of return on investment has no positive effect on inflow of foreign direct investment to host African countries; and
3. H_0: The net inflow of foreign direct investment has no significant impact on closing investment and foreign exchange gaps of host African countries.

1.6. Scope of the Study

Due to the desired result of impact to be measured by the evaluation method, secondary data is used because of a wealth of information available for long span of years and for a range of purposes. Referring to previous studies on the subject, which are quantitative in nature and employing econometric methods of analysis and secondary sourced data, this study utilized secondary data; the data sourced was for the selected thirty-nine African countries for the period 1993-2012.

According to UNCTAD (2011), in the distribution for geographic regions of developing economies; for Africa, there are five sub-regions; the Central, Eastern, Northern, Southern, and Western Africa sub-regions. For the purpose of the study, a maximum of ten countries was selected from each sub-region to facilitate meaningful comparison of results. Also in selecting the countries, the World Bank classification of economies was also adopted for relative uniformity in data gathering, analysis of results, and most importantly, a comparative study. All the countries selected in each of the five sub-regions are classified as high income, low income, low-middle income and upper-middle income countries. The purpose of selecting the thirty-nine countries was to have a justifiable balance of the whole African region by selecting a maximum of ten from each of the sub-regions, and all countries for sub-regions that have less than ten countries. Also, countries that are classified in the same income level were selected because of relatively similar characteristics, and ease of comparison of

analysis. An overview of the countries included by sub-region is highlighted in the Table1.6.1.

Table 1.6.1. Countries included by Sub-Region

S/no	Central	Eastern	Northern	Southern	Western
1	Angola (LM)	Burundi (L)	Algeria (LM)	Botswana (LM)	Benin (L)
2	Cameroon (LM)	Comoros (L)	Egypt (LM)	Lesotho (LM)	Burkina Faso (L)
3	Central African Republic (L)	Djibouti (LM)	Libya (UM)	Namibia (LM)	Cape Verde (LM)
4	Chad (L)	Mauritius (UM)	Morocco (LM)	South Africa (UM)	Côte d'Ivoire (L)
5	Congo Rep (LM)	Madagascar (L)	Sudan (LM)	Swaziland (LM)	Gambia (L)
6	Congo Dem Rep (L)	Mozambique (L)	Tunisia (LM)		Ghana (L)
7	Equatorial Guinea (H)	Kenya (L)			Mauritania (L)
8	Gabon (UM)	Zambia (L)			Nigeria (L)
9	Sao tome and Principe (L)	Zimbabwe (L)			Senegal (L)
10					Togo (L)

Source: Author's Compilation (2013).

Note: (H) Indicates High income countries, while (L), (LM), (UM), are Low income, Low-middle income, and Upper-middle income countries.

1.7. Significance of the Study

Over the last three decades, Africa has experienced incessant decline in proportional flow of foreign capital compared to other developing regions of the world. The net inflow of FDI to the region has had no evidential impact on enhancement of neither domestic investment nor development in the region. The gap of local productive factors that ought to be closed by foreign investment is on the contrary getting wider, thereby creating no meaningful impact of FDI net inflow on domestic investment and total output in the region. Despite the effort of several countries, as they opened themselves to foreign investment, improved the operational conditions for foreign affiliates and strengthened standards of treatment and protection; the anticipated effect of FDI net inflow has continually eluded the African region.

Several studies have established the impact of foreign capital flows and other macroeconomic variables on host developing countries, how it promotes growth of

economic activities, not only through efficiency spillovers but by stimulating domestic investment and hence economic development. It is therefore important to examine in the study, the basis for erratic nature of flow of foreign capital and incessant decline in proportion of net inflow of FDI to Africa compared to other developing regions of the world. The study established the impact of FDI net inflow on development of domestic investment and economic development of African countries; as stimulation of domestic investment is important for spurring national growth and development. Also, the study evaluated the effect that the rate of return on investment has on the flow of foreign capital, specifically considering the periods of the global crises and putting also into consideration socio-economic factors and possible effects that they consequently have on the economic activities of host African countries.

The study is essential to inform the government of African region on how best to maximize the foreign investment as regards restriction of flows to productive sectors of the economy that impact on industrialization, and hence increase in output and growth. This will ensure that the principal aim of flow of foreign investment is attained, by closing the limit of productive factors in order to increase investment locally. These, with stable macroeconomic policies and political stability, will thereby sustain the desired growth impact of FDI net inflow that has been conscientiously pursued by the government of host African countries, in a manner as has not been experienced in the past in the region.

The study advanced scientific knowledge by contributing from empirical results, based on theories and their applications from previous studies, and also by adapting the theories and empirical analysis to the African context. Thereby, considering how capital flows do impact on the economic welfare level, expansion of host economy domestic investment, and thus development in the region.

1.8. Limitations of the Study

The study takes cognizance of the fact that researchers have worked on foreign direct investment in the African region, and have estimated the effect on growth. The study examines this scenario with the influence of the flow closing the gaps in productive factors, the ability of this to bring growth in output, development of host countries domestic investment, which increases gradually savings ability and consequently reducing dependence on foreign capital. The study further also examined the influence that the rate of return on investment has on net inflow of FDI, considering especially the period of financial crisis and how this impact on flow of foreign capital and development in the host region.

Other studies prior to this on foreign direct investment and economic development utilized methodologies such as linear programming, inter-country regression, unit roots cointergration, GMM estimator regression analysis and panel autoregression analysis. This study, however, used the fixed effect least square dummy variable model because of its ability to remain time invariate and also keep each variable's intercept constant by using the dummy-variable technique.

The study, however, did not access the entire African region; only 39 countries were examined for the evidence from Africa. Also, for a more robust result, a physical visit to the countries studied would have been essential; but for financial and time constraint this was not done.

The researcher could have used other statistical packages, especially E-views 7, but rather opted for the STATA package because of its ability to provide heteroskedasticity correlated errors in panel data. Learning the package and adapting to the study was time consuming, however, the aim was fulfilled because it resulted into ease of implementation of panel data regression.

1.9. Definition of Operational Terms

Foreign Direct Investment

This is the category of international investment that reflects the objective of a resident entity in one economy to obtain a lasting interest in an enterprise resident in another economy. **(OECD, 2007)**

Physical/ Real Investment

This is when proportion of present income is saved and invested to argument future output and income. New factories, machineries, equipment and materials increase the physical capital stock of a nation, which is the total net real value of all physical productive capital goods, making it possible for expanded output levels to be achieved. **(Todaro & Smith, 2006)**

Macroeconomic Stability

The term "Macroeconomic Stability" describes a national economy that has minimized vulnerability to external shocks, which in turn increases its prospects for sustained growth.

(World Economic Forum's Global Competitiveness Report. 2006-2007)

Global Financial Crises

A financial crisis is a situation when money demand quickly rises relative to money supply. Until a few decades ago, a financial crisis was equivalent to a banking crisis. Today it may also take the form of a currency crisis, and stock market crash. Many economists have come up with theories on how a financial crisis develops and how it could be prevented. There is, however, no consensus and financial crises are still a regular phenomenon.

(http://dictionary.babylon.com/financial %…)

Official Growth Assistance

In the context of the study is defined as Official Development Assistance; which is the flow of official financing administered with the promotion of the economic development and welfare of developing countries as the main objective.

(IMF External Debt Statistics, 2003)

Growth Assistance Committee

In the context of this study, it is defined as the Development Assistance Committee (DAC). It is one of the key forums in which the major bilateral donors work together to increase the effectiveness of their common efforts to support sustainable development. The DAC concentrates on how international development co-operation contributes to the capacity of developing countries to participate in the global economy and the capacity of people to overcome poverty and participate fully in their societies. **(OECD; Financial Statistics 2001)**

Financial Globalization

This is the creation of international strategies by organizations for overseas expansion and operation on a worldwide level. The process of globalization has been precipitated by a number of factors, including rapid technology developments that make global communications possible, political developments such as the fall of communism, and transportation developments that make traveling faster and more frequent. These produce greater development opportunities for companies with the opening up of additional markets, allow greater customer harmonization as a result of the increase in shared cultural values, and provide a superior competitive position with lower operating costs in other countries and access to new raw materials, resources, and investment opportunities.

(QFinance; Financial Dictionary; 2009)

Capital Mobility

This is the ability of capital to move internationally. The degree of capital mobility depends on government policies restricting or taxing capital inflows or outflows plus the risk that investors in one country associate with assets in another.

(Deardorff A.V., 2006)

Economic Growth

The rate of growth in gross product (or income) per capita

(Nafziger E.W., 2006)

Economic Development

A sustained secular increase in real national income per head of population over a period of years. Development is always accompanied by radical changes in productive techniques and usually by a rise in the standard of living and reduction in poverty. **(Ojo J.AT., 2010)**

Developing Economies

A country whose per capita income is low by world standards. Same as less developed countries, based on criteria of low per capita GDP, weak human resources (life expectancy, calorie intake, etc.), and a low level of economic diversification (share of manufacturing and other measures).

(Deardorff A.V., 2006)

Gross fixed capital formation:

This consists of resident producers' acquisitions, less disposals, of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of producer or institutional units. It measures the level of economic efficiency which shows a reflection of degree of domestic investment effectiveness on development (K), therefore being reason for inclusion as an explanatory variable. **(OECD, 2007)**

Active labour force:

The sum of the employed and the unemployed population measured for a short reference period is equivalent to the labour force, also known as the current economically active population. **(ILO 1996-2013)**

Human development index:

This is an index measuring national socioeconomic development, based on measures of life expectancy at birth, educational attainment, literacy and adjusted real per capita income. **(Todaro & Smith, 2006)**

Return on Investment:

A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. To calculate ROI, the benefit (return) of an investment is divided by the cost of the investment; the result is expressed as a percentage or a ratio. **(Investopedia 2013)**

Trade openness:

The extent to which an economy is open to trade, and sometimes also refers to inflows and outflows of international investment.

(Deardorff A.V., 2006)

Inflation:

The implicit price index based on constant exchange rates (or constant international prices) of period t_0 is an aggregate price index derived as the ratio of a value index at constant exchange rates (or constant international prices) of period t_0 over a volume index at constant exchange rates (or constant international prices) of period t_0. Inflation is a prevalent factor in an economy that can determine returns on investment and development in the economy, reason for inclusion as a variable to determine the impact it has on flow of FDI and development in the economy.

(OECD, 2007)

Exchange rate:

The nominal exchanges rate is the price of one currency in terms of another Since flows of FDI are international movements of capital, it is expedient to incorporate exchange rate as a variable, to determine the impact it has on development in the economy. **(OECD, 2007)**

Government central expenditure to GDP:

This is **s**pending by a government, municipality or local authority. It covers things such as spending on health, education and social services, and is funded by tax revenue. It is one of the elements that make up aggregate expenditure.

(Dictionary Central 2012)

Infrastructure:

The system of public works in a country, state or region, including roads, utility lines and public buildings. Telephone mainlines is used as proxy for infrastructure in the research. The reason for inclusion as one of the explanatory variables in the model is because infrastructure enhances investment activities and development in the economy. The impact it has on FDI and development if therefore desired for discovery in the study. **(OECD, 2007)**

Human capital:

Human capital is productive wealth embodied in labour, skills and knowledge. In the research, the percentage of school enrollment is used as proxy. The variable is included to ascertain the impact it has on FDI flow and development in the economy.

(OECD, 2007)

Money supply:

The entire stock of currency and other liquid instruments in a country's economy as of a particular time. The money supply can include cash, coins and balances held in checking and savings accounts. Economists analyse the money supply and develop

policies revolving around it through controlling interest rates and increasing or decreasing the amount of money flowing in the economy. Money supply data is collected, recorded and published periodically, typically by the country's government or central bank. Public and private sector analysis is performed because of the money supply's possible impacts on price level, inflation and the business cycle. In the United States, the Federal Reserve policy is the most important deciding factor in the money supply. **(Investopedia 2013)**

Corruption:

Active corruption or "active bribery" is defined as paying or promising to pay a bribe. The degree of transparency of a country is determines foreign influence and volume of FDI flow in an economy. This therefore, is reason of inclusion to determine impact on FDI flow and also development in the economies.

(OECD, 2007)

Balance of Payments

The Balance of Payments is a statistical system through which economic transactions occurring during specific time periods between an economy and the rest of the world can be summarized in a systematic way. The IMF Balance of Payments and International Investment Manual provide conceptual guidelines for compiling balance of payments statistics according to international standards.

(OECD FDI GLOSSARY)

Technology

This is the complete set of knowledge about how to produce in an economy at a point in time, including techniques of production that are available but not economically viable. **(Deardorff A.V., 2006)**

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed related literature; it highlights the conceptual framework of the study, which states the possible courses of action and presents preferred approach to the research thought of the study. It further enumerates the theoretical framework of the research, on which it is entrenched and draws inferences from.

2.2 Conceptual Framework of FDI and Economic Development

The subject of flow of foreign direct investment and its effect on economic development in the African region is the crux of the study. Flow of international capital to developing regions of the world has been on the increase over the past decades, though the proportion of flow to Africa has reduced in comparison with other developing regions of the world despite the consistent increase in the rate of return on investment in the region.

Capital flows, especially FDI to developing countries, increase openness to international financial transaction, though it sacrifices domestic autonomy in the hope of a higher standard of living. Also, the elimination of barriers should result in increased opportunities of investment in the country, coupled with stringed occurrences of tangible transformation such as; physical investment, education, human capital development, high productivity even of the local firms in developing countries which are also sure traditional catalyst for growth and development in the economy.

Developing economies have low income per capita; invariably they also have low savings which literarily translates into limited domestic investment, (Jaspersen *et al.* 2000). This explains the gap in investment, as savings is insufficient to meet investment demands. High skill and technology for developing economies are equally deficient factors of production and this limits investment capability in the economies, thereby restricting ability to attain required level of development economically. Unfavourable balance of payment position which results from an excess volume of import compared to export creates a foreign exchange gap. The skills and savings gap, coupled with the foreign exchange gap, makes it imperative for inflow of external resource to augment the limits of factors of production. Local production factors which are lacking can be temporarily relaxed by adding external resource, thereby resolving the probable limit of skills, savings, and foreign exchange, thus resulting into an increase in total output, which gradually boost limited factors of production, reduce dependence on foreign capital, and consequently result into development economically; (Chenery & Strout, 1966).

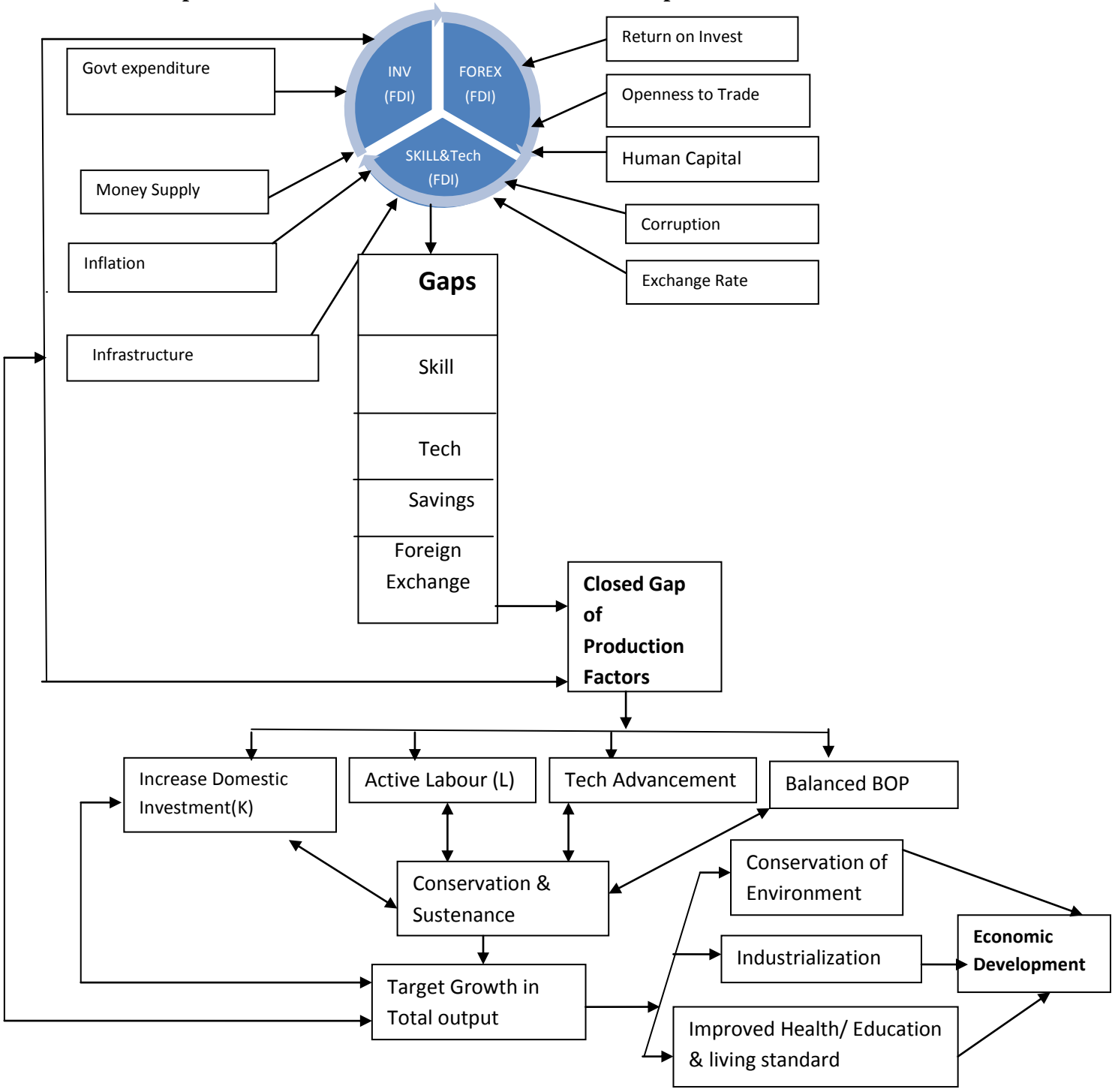
African economies in transition have increasingly seen flow of foreign capital as a means of improving their economy, creating wealth, and also to be contempory with updates globally as other nations alike. For this particular reason countries have opened up their doors for the inflow of international capital flow and putting policies in place to ensure foreign investors are attracted and also that they can make the most of the gains of foreign capital in the domestic economy. The basic expectation of foreign capital inflow is the total effect it has on the welfare of the host economy, by increasing income level, domestic investment and resulting into measurable level of growth in the economy.

Factors that determine FDI net inflow are; the rate of return on investment, level of domestic investment, openness to trade, availability of money, and other favourable socio-economic conditions. Return of capital determines where capital flows; reason

why Africa as other developing regions of the world with high return on investment are expected to have high flows of capital. FDI net inflow is also expected to close the gap of deficient factors of production, increase total output, thereby gradually increasing income per capita. This increases gradually limited factors, and this subsequently boosts domestic investment, which is needed to attain increased national output and development economically.

A cross-country study of the effects of net inflow of FDI on economic development in a globalised world economy can potentially reveal a wide array of natural variation in experiences. However, the influence that FDI net inflow is expected to bring regarding the development of domestic investment as a major instrument of economic development is of immense consideration. In addition, the stability of other social and economic indicators, paying specific attention to periods of financial crises, is important to experience the desired expectations of flow of foreign capital to the African region, as it obtains in other developing regions of the world.

Figure 2.2a
Conceptual Framework of FDI and Economic Development



Source: Author's Compilation (2013). Schematic diagram designed for the study

Figure 2.2a, describes the resident limitation on the production factors of developing economies, along with the foreign exchange gap that creates the need for FDI flows. The flow of foreign resources in the form of FDI net inflow, principally are to close the gaps highlighted above. The limited production factors gradually close up thereby increasing domestic investment, economic activities total output which result in attainment of target growth. The attainment of target growth results in reallocation of production factors and balance of payments. This gradually results in reduction of flow of external assistance as closed gap reallocate production factors. These increases in economic activities results in subsequent increase in per capita national wealth, the capital approach to sustainable development is utilized for conserving sources of wealth. This coupled with stability and preservation of social, macroeconomic and environmental factors subsequently results to the development of host nation's economy. The factors that determine the FDI net inflow in an economy are also illustrated in the framework. The factors that seemingly encourage the FDI net inflow are openness to trade, rate of return on capital, stability in the prevailing macro-economic and social factors in the country. As net FDI flows in, it is expected that, it develops host economy domestic investment, with stability also, of social and economic factors. This eventually leads to the desired expectation of development in the economy of host African nations.

Figure 2.2b

Conceptual Framework of FDI and Economic Development

Source: Author's Compilation (2013). Schematic diagram designed for the study

Figure 2.2b depicts how FDI net inflow can gear up development in the economy of host African countries, as it is seen in other developing regions of the world. Since Africa has high return on investment, it is expected that FDI flow will yield higher returns. Invariably, as the gap of production factors are closed, domestic investment is gradually increased. This, if successfully conserved, alongside with environmental and socio-economic stability, will result in the domestic sector being enhanced to develop, as desired. With these, the expected development in the host economies is inevitable.

2.3 Theoretical Framework

The theoretical framework of the study enumerates the theories on which the concept of the research is based on. These theories specifically highlight the need for foreign capital by developing regions of the world, and how these flows of foreign investment can beneficially result into increase in output and economic activities of host economies, as benefits are essentially sustained over the years for economic development.

2.3.1 Foreign Direct Investment Theory

2.3.1.1 The Two-Gap Theory

Chenery and Strout (1966) identified three development stages in which growth proceeds at the highest rate permitted by the most limiting factors; the skill limit, savings gap, and the foreign exchange gap. At early development stages, growth is likely to be investment limited as experienced by most developing economies. It is expected that foreign skill and technology reduce skill limit, investment reduces savings limit and foreign exchange limit equally. Since these gaps limit development, if they are closed, then there is development possibility.

In the national income equation;

$Y = C + I + (X - M)$ ……. (1)

To derive savings equation;

$S = Y - C$ …… (2)

Where; C = Consumption, I = Domestic capital formation or Investment

X = Export, M = Import and S = Savings.

Therefore, to derive our Y from equation (2)

$Y = C + S$ …… (3)

We therefore equate the two equations (1) and (3)

National income = C + I + (X – M) = C + S

We subtract C from both sides;

I + (X – M) = S

I = S + (M – X) …… (4)

If M > X

Therefore deficit in balance of payments (BOP); and need for financing.

This is the Foreign exchange gap

M – X = F …….. (5)

Where F = capital import.

Therefore, I = S + F (this means actual savings gap equals actual foreign exchange gap).

I – S = F …… (6)

This as well is the savings gap that needs to be closed by capital import.

However, excess planned investment over savings might differ from the amount of excess planned import over export.

If (I – S) > (M – X), then all investment will not be realized.

The required foreign assistance equals the larger of the two gaps. If the foreign exchange gap is greater than the savings gap, import reduces and foreign capital reduces, as well as inputs available for development efforts, therefore making growth limited. The import of capital for the foreign exchange gap will remove the limitation placed on trade and therefore close the trade gap.

A country can increase its new capital formation or investment through its own domestic savings and inflow of capital from abroad. The inflow of

foreign capital enables a country to spend more than it produces, as seen in equation (5); this again is the foreign exchange gap. It also enables a country to invest more than it saves, as seen in equation (6); this is the savings gap. The closing of these gaps that limit development by foreign capital has the primary aim of gradually reducing reliance on foreign capital as an economy surges towards economic development.

2.3.1.2 Hymer Theory

Hymer (1976), in his theory states that, developing countries have low per capita income and therefore high rate of return on investment. This is so because; an inverse relationship exists between income per capita and rate of return on investment. This invariably draws flow of foreign capital to developing economies that have high rate of return on investment. The early stage of development desires more capital as domestic savings is low. As development proceeds, need for capital gradually declines and domestic savings gradually increases.

2.3.1.3 Heckscher-Ohlin (H-O) Theory

The theory of what determines a nations' trade pattern developed in Sweden from Heckscher (1919) and Ohlin (1933). It states that those commodities requiring for their production much of (abundant factors of production) and little of (scarce factors) are exported in exchange for goods that call for factors in the opposite proportion. Thus indirectly, factors in abundant supply are exported and factors in scanty supply are imported. The H-O theory predicts that countries export the product that use their abundant factors intensively, and import the products using their scarce resources or factors intensively. A country is relatively labour-abundant, if it has high ratio of labour to other factors than does the rest of the world. A product also is said

to be labour intensive, if labour cost has a greater share of its value than the value of other products.

The factor endowment theory states that physical capital (non-human) and high skilled labour that is technical workers (human capital) are abundant in industrialized countries. Unskilled labour are however scarce in developed countries. This implies that the opposite pattern of abundance and scarcity of physical capital; high skilled labour, and unskilled labour is found in developing countries. Therefore for developing countries there is limited supply of physical capital, technology and skilled human capital.

2.3.2 The New Growth Theory

The new growth theory was stimulated by Romer (1986); it is known as the endogenous growth theory. It integrates technology in the form where it can relate with the function of the market. It incorporates technical advancement in such a way that it is a consequence of investment level, capital stock and also, human capital. The theory improved on earlier ones by emphasizing the importance of technology as a market force product. Its emphasis as regarding the economy encompasses the opinion that technological progress draws on economic engagements. It also enumerates the ability of technology to relate not as static but rather with the increasing return capability towards driving the process of growth.

The theory basically emphasizes on knowledge as an essential driver of growth. This is accessed in the form of buildup of ideas and critically ensuring their maximal utilization to the extent it boosts economic growth. The point of the new growth theory is that knowledge drives growth. It accentuates a paradigm shift from the regular resource based to knowledge based investment into the economy. It particularly encourages new knowledge as basis for shaping growth of the economy.

The Solow model on the other hand is usually called the "exogenous" model of growth. It depicts technology to be an incessantly intensified knowledge collection that just became apparent with time, and not essentially existing with economic forces. This overview was the basis by which economists modelled the economy utilizing diminishing returns, however, this was done excluding technology from the economic model. The specified reason was that technology was supposedly determined by factors remote to the economy, otherwise not internally generated. (Solow 1957).

The neoclassical theory asserts that, the minimal relative amount capital to labour of developing countries promises extremely high investment return. The liberalization of national market according to them draws more domestic investment, likewise foreign investment, thereby increasing capital accumulation. The resultant growth thereby of Gross National Product is similar to increasing domestic savings rate which enhance capital-labour ratio and per capita incomes in capital poor countries. The new growth theory discards diminishing returns to capital investment assumption of the Neoclassical, therefore permitting increase to scale in aggregation of production, role of externality focus in determining investment return, with the assumption that public and private investment in human capital stimulate external economies for productivity improvement that counteract normal inclination of declining returns asserted by the neoclassical, the new growth economists, highlight external economies to capital buildup which can persistently make the marginal product of physical or human capital to exceed the interest rate. It puts a stop to declining returns from being made inactive thereby resulting in long term growth patterns in developing countries.

The new growth theory, which is the most prominent element for emerging development theory, however, confront the neoclassical model in certain congent aspects. The exogenous growth models developed by Solow (1957) and other

neoclassical researchers to a large extent made no explanation for what was responsible for the improvement of technology. The implication that technology just emerged resulted into concentration on accumulation of capital and labor force enhancement as avenue for growth. The summation of the classical school was about the wealth accumulation in relation to more investment in physical capital (Romer 1986). The fundamental point to note regarding physical capital is the critical issue of declining returns; this invariably implies that economies cannot thrive merely by increasing capital.

The new growth theory revisited the ancient tradition of reasoning regarding the impact of increasing returns. Economists deliberated extensively on the concern of increasing returns as definite and hypothetical occurrences (Buchanan & Yoon 1994). However as economists developed better in theory articulation it was cumbersome to include increasing returns as a factor in modelling, supposing declining returns-produced equations are stable and could be solved mathematically. This has not been realistic mathematically based on the said assumptions, it is therefore understandable why economists were constrained to diminishing returns, because it had better equilibrium capability and could be wholly evaluated (Arthur 1989).

Regarding the interrelation of reciprocity nature of investments, especially in advanced technology, alongside with the recurring nature of spending in scientific research and development (R&D), the anticipation of business about growth are most possibly personally rewarding. The desire for growth in individual economies prompt their level of investment in R&D, this also will generate and maintain the level of growth attained. The increasing returns associated with innovative technology is a sufficient platform for sustainability. Conversely, the investors if skeptical, cut research and development expenditure and put in minimal investment,

thus, posing a causative factor or compounding an economic deceleration (Evans & Honkapohja 1996).

It is expected that macroeconomic policies will clearly aspire attaining and upholding greater altitudes of growth, this is due to the existing relationship linking increasing returns, anticipations and the expectation for sustained growth. The approach that embraces greater growth will be faced head-long by investing additionally in R&D. This will invariably direct investment towards innovative productive capital, which will acclerate the velocity of efficiency of growth economically, thereby, increasing income and improving the living standard of the people. (Bluestone & Harrison 2000).

2.3.3 Sustainable Livelihood Theory

The theory emerged as "the combination of the populace, available resources, immediate environment and level of development in four phases namely: controlling the level of population increase; bringing down the rate of relocation; discouraging basic abuse; and maintaining better management of resources. The Brundtland Commission report (1987) was built as a combined concept. Livelihood implies availability of sufficient food supply with readily available money to meet essential requirements; security of life and property, or accessibility of resources and sufficient savings to meet future eventuality. Sustainability means the preservation or the improvement of resource efficiency over a long period of time. An adjustable approach and ability gives rise to plans as well sustains a means of living for the upcoming generation. This refers to the constant transformation in the societal plan and form. These abilities are dependent on accessibility, steadiness, openness of all alternatives, of which are environmental, social, cultural, economical and political. They are based on the fairness, resource possession and joint qualitative decision making - ideas of Sustainable Human Development (SHD) and Sustainable

Livelihood (SL) which include the initiative of transformation and risk, (WCED, 1987).

The boundary between the several factors that provide the required synergism improves sustainable living. These can be found under the subsequent grouping namely: capital formation and amassings including human capital, natural capital, physical/material capital, and social capital, this however pertain to its factors – social, political, psychosocial, organisational, civilizing and religious capital. The SL standards are flexibility, capacity to pull through pressures/distress, economic productivity, social fairness, environmental maintainace as well as procedural and tactical factors that agree on the character of the organization. Principles nonetheless, are requirement, level of preparation, contributory and intelligent making of decision, creation and accessibility of resources necessary for living, the right to use and manage resources for living, steadiness and sustainability.

The capital approach to sustainable development emphasizes and ensures a per capita national wealth that does not deplete, as a result of preserving the sources of wealth which are; stock produced, human capital, social capital and natural capital. Turner (1988) figured that the opinion for the best possible (sustainable growth) strategy pursues the preservation of a suitable level of growth in per capita real earnings, without reducing the nations' investment reserve or indigenous environmental reserve. The World Commission on Environment and Development (WCED, 1987) opined that sustainable development is such that satisfies the necessities of current generation yet not jeopardizing the capability of upcoming ones, toward their own necessities being met.

Solow (1993) summed that, the duty of sustainability was to equate the posterity of endowment with whatever it takes to achieve a standard of living at least as good as theirs, while similarly looking after their next generation. Also, Anand and Sen

(1994) describe sustainable development as expansion and substantive freedom of people today, and making effort to avoid seriously compromising future generations. This is very similar to the Human Development Report (1994) definition of development objectives as; sustaining the freedom and capabilities that allow people to lead meaningful lives through sustainable freedom and equitable development.

The sustainable Livelihood theory emphasizes the sustainability imperative of formation of capital, and its accumulation in the domestic investment, of host nations. The importance of efficiency of domestic investment is a resultant higher equilibrium level of per capita income, increase in employment, and double benefit of increased production input and linkages for local firms in the domestic sector. This is accomplished through a diffusion process which encourages healthy competition and hence efficiency of the domestic investment as a result of flow of foreign funds. This direct contribution to the synergy, enhances improved productivity, and further boosts economic effectiveness which invariably results into permanent increase in growth rates of host nations. This means to sustain and improve resource efficiency for a great span of time, and with adjustable policies and abilities to create and keepup their living standard, improve security and that of upcoming generations.

2.4 Review of Empirical Literature

2.4.1 Foreign Direct Investment and Impact on Growth and Development

Foreign direct investment has been said to have a positive impact on development in African countries. Diverging empirical results have prompted several researchers to look for explanations for these seeming deviations in observed findings. Some initial research results support this perspective. For example, the initial work of Borensztein, De Gregorio and Lee (1998) the main regression result indicates that

there is positive significant impact of FDI on economic growth, however, the degree of this impact depends on human capital available in the home country. Conversly, as determined from the study, the impact for countries that have minimal degree of human capital is established by the level of relations of the two variables resulting in a negative interaction.

The interest of harmonizing activities that takes over the dislodgment of host economy competitors is likely explanation for the result of the cross-country regressions showing that FDI wields a positive, however negligible, effect on domestic investment. The seeming impact of FDI on growth by proxy here is not direct, because it exercises by drawing in several other investment sources. The study examined the empirical part that FDI plays in the procedure of transmission of technology and economic growth in least developed countries. The research study was stimulated by the endogenous growth model, having the degree of technological advancement as the main factor of the long-term income growth rate.

The study tested the impact that FDI has on economic growth in a cross-country regression making use of data on FDI flows from industrial countries to 69 developing countries over two decades (1970 through 1989). The analysis of regressions premised on panel data for the twenty years 1970–1979 and 1980–1989, the analysis was done with the use of the seemingly unrelated regressions technique (SUR). However, though the number of countries under review is good enough, but the number of years could be increased and even made more recent, particularly to accommodate the recent global financial meltdown and see possible effect of that on financial flows and its impact on economic growth.

Lumbila (2005), sought to examine the impact of FDI on economic growth regarding existing fragile empirical evidence. Also, it identified the factors that enhance FDI effect on growth in a manner that differs from what has been done in previous study.

This was done by extending the model of Borensztein et al., (1998) including risk, infrastructure, and corruption in addition to education as determining factors of FDI impact on growth in Africa. Method used was cross country regression analysis on panel data to determine the impact of FDI on growth in Africa and the scope of the study covered the period 1980-2000 for 47 African countries. It was concluded from the study that, the host economy macro environment boosted the impact of FDI on growth. The analysis shows that corruption was not significant on FDI. Thus, corrupt countries still had FDI impacting positively on growth. Although, The Hausman test performed on the data used in the paper was also not able to find the systemic difference, and there was also the presence of both heteroskedasticity and autocorrelation in the data analysed.

Asiedu (2002) examined the factors that affect FDI in developing countries, and aimed at discovering if, the factors affect countries in Sub-Saharan Africa (SSA) differently. The argument of the research was based on the findings of Jaspersen et al., (2000); Hausmann and Fernandez Arias (2000). The data used for analysis was cross sectional data, and method of analysis utilized was the cross sectional regression, and sub-period panel regression. The regression results confirms that; a greater investment return coupled with improved infrastructure, results into positive impact on FDI to SSA countries. There is however, no significant impact on FDI to SSA. It was observed that, openness to trade encouraged FDI to SSA, therefore Africa is different. Different as strategies that have been seen to be successful in other regions, could not be similarly successful in Africa. However, the theory base of the empirical study was not clearly stated. The number of years and countries under observation could also be increased for better outcome of results.

Subsequently the study of Asiedu (2006), aimed also at determining the impact of natural resources, market size, physical infrastructure, human capital, host countries' investment policies, legal system reliability and political stability on FDI flows. The

research was based on growth theories, and it made use of panel data. The fixed effect panel estimation method of analysis was utilized in the study. Result shows that; developed local markets, natural endowment, improved infrastructure, low inflation, efficient legal system, and enhanced investment framework promotes FDI. Whereas, corruption, political instability have opposite effect. It is inferred from the study that, increase in FDI does not invariably mean economic growth rather; policies that promote FDI have direct impact and long-term effect on economic growth. However, the theory base of the empirical study was not clearly stated. The number of years and countries under observation can also be increased for better outcome of results.

The study of Asiedu and Lien (2011) similarly, endeavored to discover the impact that democracy has on FDI, and if natural resources on host countries alter the relationship. The linear dynamic panel data model was utilized with panel form of data. The method of analysis used was GMM estimator; and regression analysis. The result also shows that; FDI is only promoted by democracy if the worth of share of minerals and oil in country's total export is less than critical value. The effect of democracy on FDI depends on the size and not type of natural resources, according to their analysis. However, the number of years and countries under observation are sufficient, but method of analysis can be upgraded to obtain a more precise result, and therefore better application of policies.

The work of Ayogu and Dezhbakhsh (2005) stated that all put together of the three samples, the coefficient approximation for the GDP of South Africa is positive and significant, and that of the world consumption is not significant. It is the approximations that kept in place the correlation results that the complete-market model is not explanatory of the financial system. These was therefore responsible for the elimination of the complete-market model for South Africa. The study examined the total volatility, especially shocks to output, consumption, and investment and

speaks to the total volatility in developing countries which is substantially greater than in developed countries.

It identified the main causes of shocks, as both domestic and external, however, placing more emphasis on external causes and exploring some formational characteristics peculiar of developing countries. This contributes to producing at large total volatility by making use of panel data from the period 1960 to 2004 for South Africa. The method of analysis used was Regression Analysis. (Augmented Dickey Fuller test unit roots test.) while adopting the complete market model. Though, the area of volatility that obtains in the case studies of some of the country was because, financial markets failure, according to the analysis response to total volatility. This is not sufficient indication for the volatility circle not to be observed, it can still be observed but all necessary precaution must be taken.

The work of Dhakal, Rahman and Upadhyaya (2007) airs a very costly omission, thereby posing reason for revalidation of country dummies which was not reported in the work. The study, added to literature by analyzing the existence and nature of the causal relationship between FDI and growth. The analysis was based on region where growth of FDI has been most pronounced, namely the South and South-East Asia. The method of analysis engaged was the Granger causality tests, the paper found considerable deviation in the FDI-growth relationship across countries. The research was on nine Asian countries and the period reviewed was (1980-2001). The results obtained from the tests are that; concisely, the impact of FDI on economic growth is insignificant, conversely, the impact of economic growth on FDI inflow is both positive and significant. This circumstantially depicts that the growth model reveals that the impact of FDI on economic growth is likely more positive in countries that typically have higher trade openness, greater limitation of rule of law, lesser receipts of bilateral aid, and minimal income level.

Openness on FDI-to-growth causality's positive relationship is coherent with the findings by Basu, Chakraborty and Reagle (2003) and Trevino and Upadhyaya (2003). It emphasizes the significance of an open, vibrant economic environment required for efficient investment. The model of foreign capital, that shows a positive and tangible impact of economic growth on foreign capital inflow is found to be higher in the presence of higher political rights and however, restrained by the rule of law in the host country. The effect of the rule of law depicts a negative relationship, this is suggestive of a beneficial role of FDI within an institutional environment, which on the other hand would have limited the effectiveness of investments. However, a negative impact exists between political rights and foreign capital inflow, but positive impact for domestic rule of law. From this analysis, it can be inferred that in the region studied FDI generally has flowed more in the presence of dictatorial goverments. This likely reveals higher steadiness, while, market-seeking foreign capital which is stimulated by growth favours political competition in the domestic economy.

The research of Ayanwale (2007) examined the relationship between foreign capital inflow and economic growth in Nigeria, thereby focusing on the country's definite focus to the foreign capital growth argument. The study considered a scope larger than previous studies in terms of number of years and the effect of major components of FDI on economic growth. It exploited the opportunity of access to the degree of difference on effect of oil and non-oil foreign capital on Nigeria's economic growth. The study also examined the empirical relationship between non-extractive foreign capital and economic growth, investigating the factors of foreign capital in the Nigerian economy. The period of analysis was 1970-2002, and the augmented growth model was estimated via the ordinary least square and the 2SLS method of analysis.

The researcher found that; there is a negative relationship between openness and foreign capital inflow. Whereas, a positive relationship exists between both infrastructure and returns on investment and FDI, though returns on investment is not statistically significant. There is a positive relationship between FDI inflow; inflation, and government size. Whereas there is a negative relationship between FDI inflow; human capital and political stability. Foreign investment in Nigeria imparts positively to economic growth. Even though the total impact of FDI on economic growth may not be tangible, the factors of FDI do have a positive impact.

The communication sector's foreign investment has the greatest capability to bring considerable growth in the economy, it is much higher than that of the oil sector. The foreign investment to the manufacturing sector has negative effect the economy, this reveals the unhealthy business environment in the country. Although, the number of years was sufficient for the analysis, the study could have made more comparison with other African countries and even other developing nations of the world. Also, to get more applicable results, a more sophisticated method of analysis could have been used to help measure possible shocks and their implications on the economy.

However, the study of Fortanier (2007), centred on the importance of a precise FDI feature;of the Transnational Corporations (TNC) country of origin. The state of market, business structures and institutions in the TNC's originating country control a large coverage of tactical and organizational features. For instance, the degree of sales within the company, specialization on specific sectors and management practices of human resource. This study added to knowledge by making input to the argument by examining the variation in the growth effect of FDI originating from various countries, utilizing data on two-sided investment stocks of six major outward investor countries in 71 host countries, 49 of which were developing economies, covering a period of 14 years; (1989-2002) and using Panel data analysis as the method of estimation. It was found out in the study that, the major independent

variables are significantly associated with the dependent variable, GDP excluding institutions. However, considerable association exists between the independent variables, especially between schooling, institutions and initial GDP.

As anticipated, FDI for each investor economy is associated with total FDI, and to a smaller degree, with themselves too. Still, the coefficients are however minimal, and also there is substantial difference in the value of the correlation coefficients between FDI of each investors and the other factors in the model. The explanatory statistics does not reveal the incidence of prominent outstanding distinctions, even though the maximum rates for trade openness and all other FDI factors are reasonably high. These are early suggestions of the variances in FDI by country of origin. This initially resulted from the addition of Hong Kong (China) and Singapore in the selection. Even though these scrutiny did not tangibly affect the results of the estimation in many instances, these two economies were challenging in investigating the relationship between trade openness and FDI.

The result confirms that the growth outcomes vary by country of origin, and that these country of origin also differ counting on the host economy peculiarities. The study concludes therefore that there is a negative impact of FDI on growth in economies with small human capital stock; or if they are comparatively closed to trade; or are qualified by low worth institutions. Nonetheless, a positive impact exists between FDI and growth for economies with greater ratings in these elements. It was however, noted that the quantity of economies being analysed seemed sufficient, but the number of years used for the analysis was scanty, considering the nature of the test and impact desired to be measured by the study.

Cakici (2009) found that the reactions of the factors to a unilateral, positive, short-lived technology distress in period 1 are shown as follows; it is obvious that output, deposits, loans investment, domestic, labor supply and net exports rise in response to

the distress, but consumption shows reduction. The rise in investment and net exports prevails over the reduction in consumption, thus resulting to an growth in output. Furthermore, the positive relationship between savings and investment is also similar to the assertion by Mendoza (1991) in the actual business sequence literature for small open economies. In the inadequate capital movement situation, it comprises an authentication of this contention in a monetary setting.

The method of analysis adopted was the dynamic stochastic general equilibrium model (DSGE) in the context of a small open economy, and presented with the confirmation of a monetary framework, a positive correlation was found in the real business cycle literature on small open economies, as well as savings and investment, in the case of both monetary and technology shocks. Furthermore, the analysis of monetary shock effects on the economy given changing levels of financial integration made it possible for the researcher to understand the patterns of optimal monetary policy.

The study aimed at examining the structure of the DSGE with sequential resistances, and getting fund from international sources as regarding the growth of money. Distress in technology for an economy that is small and open and the examination of the inferences of changing levels of financial integration, was prepared for the effect of such distresses on the economy. A DSGE structure that contains financial integration is extended in this research study, in order to examine the receptivity of the reaction of a small open economy, to the growth of money and the technology distresses, regarding changing levels of financial integration. The methodology adopted is the regression analysis (linearization and simulation). The second order level of linearization was taken on. This led to the role of the stimulus reactions which are the outcomes of actual Monte Carlo simulations of potential distresses. However, pertaining to the method of analysis, the model phase data was not

justified in the study. This would create avenue for other potential studies to be done by an extension of the research work.

The study by Ojo and Alege (2010) aimed at examining the period of the current global financial crisis, policy implications and the impact of the sudden rise on FDI flows, as well as the consequent financial and economic development for the selected countries. It was based on International Trade, New Growth and Financial Theories and stated an expanded Solow-type model in the determination of the endogenous growth model. The method of panel Vector Autoregression was also used, this was done principally to measure the active impact of FDI inflows for policy examination utilizing the role of stimulus reaction. The countries included and accessed were 27 and the period of estimation, 1987-2007. From the regression result, there is a significant positive value for GDP implying that the inflow of foreign capital will rise as there is growing economic activity in Africa.

The degree of the coefficient shows an elastic response of FDI in relation with variations in GDP. The degree of openness (OPN) value is statistically significant, and differs from zero value at 1 percent degree. Specifically, there is nearly unitary elasticity of OPN. These outcomes buttress the theory that increase in economic performance and trade liberalization promotes the inflow of FDI to Africa (Chakrabarti, 2001). On the other hand, the exchange rate and interest rate values were insignificant even at 10 percent showing that variations in these factors do not justify variations in FDI, in a substantial manner. However, the countries under review could be increased save availability of data and also putting observation to more number of years to obtain an even more convincing result.

The study of Ayadi, Ajibolade, William and Hyman (2010), unlike previous research aimed at examining, the long-term relationship between corruption and FDI flows in

SSA countries. Panel data was used along with the the Fernandez Arias and Montiel framework. The method of analysis employed was the panel unit roots and panel co-integration. Results showed that; level of transparency and size of FDI flows, have long run equilibrium relationship. The two variables hereby move together without drifting apart. Therefore, for SSA countries to attract FDI, it is expedient to transform their political and economic environment. However, to have more robust results in the study, the number of years and countries observed could be extended.

Kohler (2010) in his study, intended to analyse the behavior of multi-national enterprises (MNE) experiencing a fragile institutional setting in domestic economies. Correlation analysis method of estimation was employed with revelation principle, and Cournot Nash equilibrium framework. It was discovered from results that; weak institution are impediment to FDI. Also, insecure environment, local bureaucracy, and corruption are all hindrances and affect FDI flows to host countries with weak institutions. However, the analysis did not consider that indigenous authorities stimulate competitiveness; within investors from the external context so as to take full advantage of the degree of the corruption.The kind of data used was also not specified in the study.

In the research of Guillaumont and Korachais (2006), they found that the multiplicative factor was insignificant. To summarize these evaluations, it can be implied that the volatility of income may, apart from the growth of income and Gini value vary, and a further effect on variation on poverty. Though the effect may be minimal, once the volatility of income is greater among Sub Saharan African (SSA) countries, a part of their greater poverty prevalence is well described. Futhermore, as the volatility of income is inclined to reduce the growth of income, it results into the boost of change in poverty. As volatility is significantly greater in SSA countries, it is likely to be an extra variable describing greater SSA poverty occurences.

The research aimed at determining, the impact of volatility on poverty stimulated by a lesser growth. It sums up the emergence of poverty from possibly accessible statistical figures, and goes ahead to include the volatility of income into a suitable model so as to discover if poverty changes in Africa, than it is does elsewhere. The sample built composes of two periods containg 9-year each for the assessment of poverty change; 1981-1990 and 1990-1999. The scope of the study covers 68 developing countries including, 28 that are SSA countries. The standard model of poverty change, a parsimonious model was adopted (Bourguignon, 2003; Adams, 2004). Though, the assumption of larger instability of sub Saharan African countries necessitates, the constant condition of the model among African countries as a whole. Also, to depict a greater stable impact, a panel model describing that the degree of poverty can be utilized by the earlier that noted volatility incidence. This observation was done on an extended period for descriptive factors of poverty as was used at every level.

The research of Obstfeld (2008) took a step further in establishing the association linking financial development and economic growth. Unlike the earlier work of Ploeg and Poelhekke (2007), who stated in their study, that there was proof for a tangible undeviating impact of financial development on economic growth, and that the effect was negative. They found that; a positive significant relationship existed between level of financial development and economic growth. There as well exists a minute logical proof that openness financially increases welbeing in some way by enhancing security modifications, of economic establishments or strategies. Also, there is no direct relationship between flow of FDI and macroeconomic stability. The conscious release of the financial account most likely will increase the incidence, and gravity of economic distresses. However, developing countries persistently follow the route of more openness financially.

The study aimed at reviewing differently, from previous research, the probable gains and prices to developing economies, for accepting financial globalization. Theory and evidence were both explored, with concentration on the institutional providing support and strategy modifications that appeared more probably to give rise to net benefits. Also, they examined the proof that financial development in the domestic economy, stimulates growth under the correct instances with its assertion based on the theory of improved risk sharing. This invariably has a strong risk return trade off. Although, the study is rather more qualitative than quantitative in input, it therefore, does not back up its conclusion with its own empirical findings and just those of others. The contribution to knowledge would have been therefore more precise by putting to test, its assertions which have been based on the selected theories.

The result obtained in the study of Buch *et al.*, (2002), is also similar to that summed in the research of Kose, Prasad, Rogoff, and Shang-Jin (2009) as they also stated that; there is no systematic association linking economic growth and financial openness. There's an insubstantial positive relationship, linking the GDP average growth and variation in financial openness. There also is a positive impact of financial integration, on economic growth. There exists a positive correlation between financial openness, financial development and institutional quality. There is a negative correlation with the logarithm of inflation and government deficit essentially zero. There exists a positive relationship linking the degree of financial integration and growth of productivity. However, no systemic significant association exists linking financial openness and output volatility. The exists a association linking growth and current account, utilizing averaged data for a long period, for either country is positive. The study aimed at solving the inadequacies of the previous approaches used, their focuses on only direct effect of financial globalization, coupled with scanty empirical support, about the link between growth and financial openness.

The model was supported by the standard one-sector neoclassical growth model, the conventional (undeviating) theory path, via which financial globalization have effect on economic growth is the increase of capital. The method of analysis adopted was the panel cross sectional regression. But, despite the in-depth assessments, there was no empirical evidence to the fact that financial openness do advance improvement of financial sector of the domestic economy, with emphasis on macro-economic strategies as stated in the study. Rather, the impact of developed financial sector as an indirect factor benefits, by enhancing growth. Also a more technical method of analysis could have been used to measure the variables more effectively and therefore obtain more accurate results.

2.4.2 Foreign Direct Investment; Impact on Production Factors and Output Growth

Ploeg and Poelhekke (2007), in their study found that the positive values on the typical share of investment, and preliminary human capital propose that economies which put in more investment into physical and human capital benefit a greater deal of advancement in per capita income. Although, the value on human capital is insignificant. There exists a tangible negative value on preliminary per capita GDP, this indicating that underprivileged economies that begin with minute degree of per capita income, pull alongside and develop quicker ceteris paribus (regarding, conditional convergence).

The instability of unexpected growth of output, influence GDP per capita growth negatively. This corroborates the model results of Ramey and Ramey (1995). There nonetheless is a negative value for degree cause of natural resource, reliance on economic growth. Contrary to most of the prominent practical literature, financial development, openness to foreign trade and several relative factors are not

significant descriptive variables of cross-country disparities in growth of per capita GDP. A tangible relation position is also present between openness and financial development at the degree of 1 percent. There exists also a proof of conditional convergence, enabling the deprived economies to pull alongside.

There is presently proof of a tangible positive express impact, of focused natural reserves on economic growth. There nevertheless, is no proof for a tangible impact of openness on growth. There is proof, for a tangible basic impact of financial development on economic growth, but regrettably the impact is negative. More imperatively, is the instability that unexpected growth applies, the impact is strong and negative on growth in GDP per head. As anticipated, instability on its own results into a rise in the GDP portion, of focused reserves and to a lower level, with the GDP portion of subtle reserves.

Both financial development and openness presently have a negative express impact on growth, but the relation positions with natural reserve rents are tangible and positive. For the least level of financial development, the net impact of the GDP portion of reserve rents on growth is negative, for economies that are clogged to international trade. It is conversly, positive for economies not closed to international trade. If countries have greater levels of financial development, the insignificant impact of reserve rents on growth could be positive, even for economies that are closed. All analysis, shows that rates of investment have a tangible positive impact on growth and that growth of population and preliminary per capita income have a tangible negative impact, on GDP per capita growth. Only human capital has a tangible positive impact.

The research, aimed at giving an important function to the worth of financial markets in comprehending, how the instability of prices of commodity and natural reserve export incomes may bring a decline to the level of growth. This is adapted from the

liquidity distress disputes advanced by Aghion, Diego and Peter (2006). Efficiently, greater natural reserve incomes, assist to easily prevail over negative liquidity distresses. They therefore depict that greater unstable prices of commodity, will hamper improvement and growth. The study, expands Ramey and Ramey (1995), by making room for the direct impact of natural reserve wealth, on growth and more essentially, the implicit impact of natural reserves, on growth efficiency via instability.

Thus following the outcome of the study of Blattman, Hwang and Williamson (2007), and permitting for the function of natural reserves on economic instability in the macro context, financial development, openness and detachment from watercourse, being the basic factors of instability. The examination interval was 1970-2003 and the assumed model was the law of one price. The method of analysis utilized were the, approximations of the panel-ARCH, regression analysis, and cross country panel approximation. Even though, it was clearly complicated in the research to reduce price instability of reserves on their own. In actual fact, it could be practicable to tackle instability in a more effective manner. The study also had no visible manner of conquering political persuasions of short-run reserve prosperity, to generate the financial and political establishments required to lessen instability. There was also an unclear position of lessening the effect of instability on growth and also to avert deprivation.

The study of Eozenou (2008), found that, the fall in the instability of output growth over the selected time is justified best by the creation of trade openness, inflation, principal produce reliance and trade terms, other than by the financial factors. The output growth instability, the financial factors have no tangible effect on instability, in spite of whether they regarded the relationship condition or not. The direct approximations infers that, financial integration has a positive effect on output growth instability up to a specific degree of financial development (around 70

percent-80 percent GDP). The coefficients were far from being statistically significant. The present practical proof was premised majorly on cross sectional eamination, and suggested also the nonexistence of any tangible relationship, within financial openness and macroeconomic instability.

This study is however, a statistical effort to establish if financial conditions of home economy, is important in the association between international financial integration and instability. A panel data of 90 countries, through the specified period 1960-2000 was used to determine clearly, the function of the relationship impact between international and domestic finance in the association between financial integration and instability. The econometric methods used was the GMM-IV panel estimator method, Regression/OLS Model after the works of Arellano and Bover (1995) and Blundell and Bond (1998) were adopted.The standard errors were reasonably high because it departed from the approximated limit. This is a likely justification of the multicollinearity impact brought in by the basis of relationship which increased the inconsistency of the approximated values and persuaded the accuracy of the researcher.

The study of Baxter and Crucini (1995) aimed at restricting access to international risk sharing in ways that seem empirically more reasonable than assumption of complete market. They built a model specifying a general equilibrium for two countries with trade of asset constrained, related to the work of Conze, Lasry, and Sheinkman (1990); Kollman (1993); Constantinides and Duffie (1991); Telmer (1993); Heaton and Lucas (1995). The method of analysis used, was the unit roots, cointegration;, standard VAR, and panel correlation. It was found that Shocks to productivity are highly persistent, and transmission of shocks from one country to another. The innovations to productivity are positively correlated across countries. With the random walk specification, both asset structures predict a negative correlation between the net export ratio and output, which is characteristic of most

OECD countries. However, there is a limitation in the two country equilibrium model, regarding business cycles and financial integration. A wider range model putting into consideration globalization, which implies that no limit is visible in the face of a no barrier world.

2.4.3 The Paradox of Capital

Standard economic theory tells us that financial capital should, on net, flow from richer to poorer countries. That is, it should flow from countries that have more physical capital per worker, and hence where the returns to capital are lower, to those that have relatively less capital, but greater unexploited investment opportunities. In principle, this movement of capital should make poorer countries better off by giving them access to more financial resources that they can then invest in physical capital, such as equipment, machinery, and infrastructure. Such investment should improve their levels of employment and income. Does foreign capital flow actually result in economic development? Then why is there the supposed paradox in the flow of capital?

In the research of Reinhart and Rogoff (2004), they found that, the association within the per capita private external debt and income per capita, substantiates the proposed theory that income per capita rises if the institutional value is enhanced, this means that there is improved opportunities of accessing foreign loans. There exists a significant association with least developed economies still giving nonpayment of one-third, to half of the period inspite of the fact that they have taken only small loans. This invariably makes the flow small to developing countries, because they do not repay. The researchers aimed at examining briefly the past accounts and occurrences of sequential nonpayment, by reviewing a number of the justifications given in the narration on the “paradox” of the reason why capital is not drifting, from developed to developing economies and thereby linking the issue, to

sovereign's countries' documented history of credit. The Lucas new growth theory (decisive status and liability), with model of Eaton and Gersoritz (1981), was adopted. The evidence presented draws heavily on Reinhart, Rogoff and Savastano (2003). The method of analysis was the cross section regression analysis, standard logistic distribution. However, the number of years seems to be scanty compared to previous work on the subject. The number of years should therefore be increased and also the number of countries for observation. Also, an all encompassing method of analysis can be used, for more robustness of results in the analysis.

The study of Dos Reis (2005), similarly, found reasons for capital flowing uphill instead of downhill. The research found that, the effect of foreign capital flows' instability calculated at GDP percentage, the instability encountered by least developed economies is extremely greater. Between country clusters, instability quantified as a percentage of GDP, is greater for economies with few industry than for G-7 economies. In the midst of least developed economies, the most susceptible of the cluster are mainly African countries, followed closely by the Western hemisphere, middle east and Asian countries. Unlike previous work, the study aimed at determining a substitute quantification of foreign capital flows instability based on the instability of net flow of capital, as a percentage of GDP and it was argued to be a more suitable estimate to depict, the economic impact of foreign capital flows instability.

The work also measured export instability, and flow of foreign capital on the whole as a portion of GDP. This was to depict countries' total susceptibility to the dilemma of balance of payment, rising from both capital account distresses, and from current account distresses, that is, commodity distresses. The model adopted, was the procyclical behavior of both groups of high and middle income countries, as in the work of Kaminsky (2004), Gavin and Hausmann (1996), O'Donnell (2001). The methodology used, was standard deviation and correlation coefficients based on a

period of 20 years, and 187 countries. However, the method of analysis used is not sophisticated enough to capture macroeconomic volatility as desired to be measured in the study, just as stated in the study that the methodology used underestimated its macroeconomic impact.

The research of Prasad *et al.,* (2007), aimed at investigating the extent to which capital is distributed all over the world and if foreign capital inflow actually advances growth in the least developed countries, in a way that has not been done by earlier research work. Standard Economic Theory (That foreign capital ought to flow from developed economy to least developed economy) was espoused, and regression method of analysis was adopted. To examine this issue, 59 least developed countries were classified into a series from small to large growth rates average, for the specified interval 1970–2004. It was found that, current accounts of non industrialized countries are positively correlated with long run growth. Thus countries that grew more quickly, have been less reliant on foreign finance, also a negative correlation for industrial countries.

In the face of the current integration globally, with increasing foreign capital flows and a reasonably serene period in global financial markets, the relationship among the balances of current account and growth, continues to be positive for countries that do not have highly developed manufacturing enterprises (in the outstanding cases the relationship is zero). The negative association projected by economic theory was never found in any instance. However, the variable used to measure capital flow, that is current account balance, is ambiguous as other components may be inclusive. The data collected and subdivided on the basis of average growth rates could have been done into more subdivisions to ensure better and clearer picture. There also is no strong evidence of casual relationship, on the reward of growth related with declining dependence on foreign capital by least developed economies.

However, the study of Gourinchas and Jeanne (2008) found that; expected flow of capital are negatively related with the growth of production, whereas capital flowing outwards are positively related, with the productivity growth rate extending throughout all the countries. There also exists a resilient negative relationship, within the cram of saving and productivity. The research aimed at looking at the input of flow of capital, in evening out earnings as has not been done by previous studies. They established that earnings to capital, are not a sound forecasters of flow of capital. They looked rather at the basic factors of flow of capital, in a global context of absolute ability of capital to move freely, i.e., variations of cross-country in paths of production. The neoclassical growth model open economy edition (standardized open economy growth model) was assumed.

The method of analysis used is the Cobb Douglas linear specification examined on 69 least developed countries: and also 66 non-OECD countries, including Mexico, Korea and Turkey between the periods 1980-2000. The dynamic equilibrium model was not developed in the course of the work to ascertain the fact that the capital flows model were those noted in current times. It was, nonetheless, noted that the least developed economies that had fastest growth (the up-and-coming South-East Asian market economies), were again those that had the greatest trade excesses.
It is not clear if a standardized model, created alongside the paths can describe the cross-country relationship inbetween growth and flows of capital, perceived in the data, and whether other inferences of the model comply with the statements.

The study of Alfaro, Ozcan and Volosovych (2005) examined the varying hypothetical descriptions for the paradox highlighted by Lucas, in a systematic empirical study and looks at the role that institutional quality play, for capital flows as has not been done by previous studies. The Lucas paradox; standard neoclassical theory was adopted. The cross-sectional regression, with whole sample (1970 - 2000); cross-sectional regressions, with sub-periods; Monte Carlo simulations;

perturbation application premised on Beaton, Rubin, and Barone (1976), and condition index model of Belsley (1991).

It was found in the study that; the institutional indicator is significant at 1 percent degree, whereas the GDP per capita log is not. The institutional effect on inflow capital in the foundation sample, is rather the same with that of the whole world sample. Average years of schooling log is not significant, distantness log, also is not significant. The function of the constraints to free movement of capital, which is negative is significant at 1 percent level. Nevertheless, GDP per capita log also keep on being positively significant, and thus the constraints to free movement of capital, could not quantify for the paradox. In the multiple regressions, GDP per capita log turn out to be insignificant. The constraints to free movement of capital were likewise an essential factor, however it also could not quantify for the paradox.

The worth of institution factors is vigorous by including other descriptive factors and is consistently significant at one percent degree. The same regression estimated, utilizing GDP per capita log (constant 1996 dollars) in 1970 rather than the PPP supported quantification of the approximated value on GDP per capita log, is quite greater but yet insignificant and the approximated value on worth of institution, is quite related. The outcomes are significant economically as they were previously. The IV approximation, gave positive and also significant impact prior to the sample institutions, on the following 13 years of per capita capital inflows. However, there is evident presence of multicollinearity in the variables used. There is therefore possible need to make adjustment on the selected variables. No explanation and recommendations were also proffered, on getting good institution which is the main variable of the research. Since it is the main significant variable, there is need to be loud and not silent, on possible ways of moving forward and attaining good institutions.

However, it was found that the average stance in dependent assertions rises with earnings, it is negative for least developed economies and positive for developed economies. The overall stance in uncertain investments also rises alongside networth. Country 1's debt and foreign risky asset positions is negative and quite large therefore, several countries that are financially advanced amasses a tangible negative NFA, selects a more uncertain portfolio, and encounters a decline in the risk-free rate comparative to the state of economic independence as a national policy. This result was reported, in the study of Mendoza, Quadrini and Ri'os-Rull (2009). The aim of the study was to ascertain the cause of persistent global imbalance, resulting from financial integration. The quantitative dynamic general equilibrium model was adopted, with calibration methods, symmetric transition probability matrix, correlation, sensitivity analysis; and panel data was used. However, the adopted method of analysis is not clearly seen, or outlined in the work. Also, a better method of analysis can be used to obtain a more accurate result. There also is a limitation in the two country equilibrium model, regarding business cycles and financial integration. A wider range model needs to be adopted in the face of a globalised world economy.

2.4.4. Economic Determinants and Flow of Foreign Direct Investment.

In the study by Aysan, Pang and Varoudakis (2005), it was found that; in the approximations, about all descriptive factors shows tangible effect on private investment, except for infrastructures and macroeconomic stability. The catalyst factor possesses the anticipated positive symbol, this means that expectations of economic growth encourages greater investment. In the same vein, rate of interest seems to apply a negative impact on the investment plans of the firm, this is coherent with the capital theory's user cost. The approximation too reveals the negative effect of macroeconomic instability computed as a moving standard deviation of five years duration for GDP growth, on assessments of private investment. The outcome too

complies with the results of Aizenman and Marion (1999). The study aimed at contributing to research, by adding to the quantity of middle east and north Africa (MENA) countries, studied (making about five amid 40 developing economies). The time frame of the study was (1973-1980 to 1999).

The study employed econometric method utilizing panel form of data, this permits relative examination between the several regions especially within the MENA countries. The research extended the catalyst model of the neoclassical school, and addresses several restrictions affecting investors in least developed economies, into consideration. Ultimately, to evade the challenges of multicollinearity, instigated by the use of quite a great amount of probably collinear desriptive factors, they thus utilized combined modified factors. These indicators are treated by mainy utilizing basic factor examination. However, normal bank discount rate was used instead of ideal interest rate; this could affect the result of the analysis unfavorably. The number of years under observation could also be increased, to arrive at a more valuable and relevant conclusion.

Arestis *et al.,* (2005), in their study found that; to institutionalize contemporary financial structures, there is need for them to be legal bodies, regarding the fact that they are inserted in the economic and social invention course. Finally, for the standards of banking to bring about advancement, they ought to be assimilated into the awareness of the population at large. The occurrence of this is more probable if constructs are varied, involving and available. The financial liberalization theory, is not strong either on theoretical, or on empirical basis; this thus necessitates an option.

The study argued that the guiding principle of financial liberalization has a poor foundation of hypothetical basis.The predictable result of utilizing the recommended principle, is premised on an extremely superficial knowledge of the vibrant

association, inbetween finance and economic development. The study, believed in McKinnon-Shaw's financial transformation, which has instigated extensive banking predicaments mainly, due to the feeble basics of the model. However, the study aimed at planning a substitute hypothetical perception, by scrutinizing institutional conditions for creating and revamping financial structures, for economic development. Though, the study is purely qualitative with no quantitative input, it does not back up the conclusion with its own empirical findings, rather just those of others. The contribution to knowledge, would have been therefore more precise by putting to test its assertions which had been based on the selected theories.

Although Servén (2006) found out that as expected regarding the portfolio diversification theory, average foreign benefits (at a percentage to total wealth) are negatively associated, to the appraisal of home economy investment earnings and the domestic to foreign wealth percentage. It is also associated positively, to the proxies of investment threat. The proxies of co-association also depicts a relationship with the net foreign asset (NFA)/wealth proportion, however, not as vigorous as with the remaining descriptive factors.

In conclusion, foreign capital flows appears to react to market motivations in a number of, though not all clusters of economies. Exclusively, in economies where the forces of the market are probable to take over other deliberations, global capital flows act in agreement with the standards of portfolio diversification. Generally, we can summarize the outcomes as corroborating the observation that, inflows of FDI react positively to projected proceeds and negatively to apparent instability in the target economy. They react negatively also, to greater proceeds on substitute universal assets. All values, are greatly significantly tangible, and the regression degree is sturdy, principally in least developed countries.

The outcomes shows that, a considerable part of the time series deviation of the globalization appraisal, is as a result of the freedom of capital markets. This study,

gives a discriminating impression of important issues and current developments, in the foreign portfolios of North and South. It keeps the major stylized details, and appraise if and how, they can be acquiescent. The major objective was to determine well, the factors deciding the global financial integration of least developed economies, to learn from these economies, to take the total possible progress of global financial flows. The research depicts carefully from current methodical and empirical study on the deciding factors of foreign portfolio variegation.

Its model was based on portfolio theory, with response of capital flows to risk, return and portfolio diversification model. The period of analysis was within 1966 to 1997 and a total of 54 countries. Methodology used was the regression analysis. However, since the study was aimed at better understanding of the forces shaping international financial integration, a deeper and an all encompassing econometric method of analysis than just regression should have been used. This could have further measured more accurately, shaping forces of international financial integration. The scope could also be increased, in terms of number of years under observation, and also the number of countries, to give a more robust analysis of the result.

Also, the study of Ahmed and Suardi (2009) found out that there existed a positive association amid trade openness and output growth instability in Sub-Saharan African (SSA) economies. This is regular with the result of Dupasquier and Osakwe (2006), on countries in Africa. The study of Kose and Reizman (2001), and Bleaney and Greenaway (2001), along with others, also keep details that have open trade systems resulting into greater macroeconomic instability in SSA. The outcome maintains more that the forecast, financial liberalization and output growth instability are negatively related. For SSA countries that have adopted greater open financial systems, they in addition have encountered a larger fall in the instability of cumulative output. In conjunction with earlier research (IMF, 2002; Kose *et al.*, 2006), they discovered the existence of capital account operation constraints to be

positively related with growth of income instability that accounts for global distribution of risk.

The constraint of capital account has a statistically considerable and positive impact on instability. On its own, Trade openness adds to larger instability to the growth of income. Nonetheless, with the existence of a profound financial market, the unfavorable impact of trade openness is alleviated. Really, the proof shows that macroeconomic instability can be made to decline if the SSA economies have a strong financial structure to manage the huge and unexpected variations in reserve income created by enhanced trade flows.

This study undertakes a vigorous examination on the allusions of trade and financial liberalisations on macroeconomic instability in SSA. Contrary to Deaton and Miller (1996), and Hoffmaister *et al.,* (1998), which centered on manufacturing and deployment expansion. According to Dupasquier and Osakwe (2006), instabilities in manufacture does not necessarily imply instabilities in deployment. Their examination manages for the impact of other basis of macroeconomic instability as well as: transformation in fiscal policy, trade terms distresses, inflation, and natural disasters. Specifically, it is a crucial different approach from earlier research in the manner they ascertained the processes through which financial development and institutions advance lesser macroeconomic instability.

The statistics contain information for twenty five (25) chosen SSA economies for selected term covering 1971-2005. It was built utilizing the technique projected by Fatas and Mihov (2003), and logarithm variation of the progression from the tendency of Hodrick-Prescott. Method of analysis was panel regression analysis. Though, considering the effect desired to be measured in the study, it is expedient that the number of years and also number of countries under observation should be

increased, for better result. For accurate impact also, a more encompassing econometric method of analysis should be employed for more precise results.

However, the study of Hussain, Mlambo and Oshikoya (1999), found out that: there was a negative effect of crisis on prices of export and volumes of trade. This is determining about 2.7 percent decline of the global trade capacity. Whereas, the capacity of primary commodities trade diminished by approximately 2.3 percent. This, is collectively with the negative effect on the primary commodities prices, which indicates that the distresses was a product of approximately 7.7 per cent fall in the rate of traded primary products globally. Therefore, the distress had a residual effect that is negative on Africa. This research intended to establish the specific effect of global financial crisis on African countries. This has not been closely analysed in previous studies because of the Asian financial distress. The long term development theory; Radelet and Sachs (1998); Corsetti, Pesenti and Roubini (1998) was adopted. The work was specifically on five Asian countries and the effect that this crisis had globally, with the African lesson. However, the methods of analysis were mainly qualitative and quantitative and majorly comparative analysis. This made it complicated to deduce from the results the effect of the global financial crisis on the African countries. A better model could have been used with a better method of analysis specifically econometric in nature. This would have brought out the effect measurement clearly and accurately.

The increase in output instability has, typically, reduced comparatively in the 1990s than it did thirty years prior to that time. More importantly though, the instability of increase in consumption in relation to increase in income has generally improved for more financially integrated economies (MFIEs) in the 1990s, throughout the period which financial integration, as quantified by flows of capital to these countries, improved considerably. Their results specifies too that financial openness, as captured by total inflow of capital as a percentage of GDP, is related with a boost in

the percentage of instability of consumption to income instability. This is a divergent view of enhanced prospect of global share of risk in the course of financial integration. Conversely, the association is a nonlinear one. The moment the value of total inflow of capital reaches a certain verge, it seems to have an impact that is negative on this percentage; this is the result found by the study of Kose *et al.*, (2003).

The study aimed at determining if financial integration engenders the gains of growth. This association is not constantly established to be sturdy or vigorous. Also, the practical proof that is accessible on the impact of financial integration on macroeconomic instability is greatly inadequate. Panel data, regression analysis of volatility dynamics, and IV estimate in a huge collection of industrialized and least developed countries for the specified time 1960–99, were used for the analysis. The model is economic theory based.

2.4.5. External Assistance; Gap Theory and Economic Development

The research of Chenery and Strout (1966) principally aimed at outlining a hypothetical structure intended to analyse the procedure of development with foreign support in quantifiable expressions and to appraise the present state of the least developed economies and evaluate their potential requirement for support of several suppositions. Results showed that a considerable rise in investment basically funded by international credits and aids has resulted into swift increase of GNP which is trailed by a stable fall in the reliance on foreign funding. Growth did not only pick up the pace by international funding, however, the capacity of each country to keep up more progress from available resources was exceptionally and significantly boosted.

The comparative analysis suggested some global provisions of accomplishment that could ease the preparation and implementation of programmes of international

support. The Harrod-Domar and Neoclassical Model were utilized and the Cobb-Douglas Model was used in estimation of models. The panel data was estimated with the use of statistical analysis, linear programming, inter-country regression, and comparative analysis. However, the number of years and countries under review could be increased for broader analysis; also method of analysis could be upgraded to obtain a more precise result and, therefore, better application of policies.

The research of Baltabaev (2012) premised on the technological spillovers theory, aimed at improving the understanding of FDI growth relationship in addition to analyzing the benefit of comparative rearwardness hypothesis in a consistent econometric framework. It was found in the study that: the positive impact of foreign investment on total factor productivity growth depended on the intensity of the absorptive capacity of receiving countries in terms of the distance to the technology leader (technology gap). Results suggest that the countries with larger technology gaps seemed to have benefited more from FDI. The GMM estimation method was utilized in the examination of the panel data. However, there is evidence of presence of heteroskedasticity of the variables set. The results was also not fully reported probably the instance of making the work compact. This limited access to empirical proofs of the research assertions.

In the research of Easterly (1999) it was found that: there were zero coefficients on aid in a cross-section investment regression. At short-run horizons, there was no evidence that investment was a necessary condition for high growth. The study, which was based on the Linear aid-investment-growth model and the financing gap model, aimed at examining the consistency of the financing gap model with different growth theories. Also, it aimed at determining if aid would be directed equally towards investment, and if a predetermined direct association exists among investment and growth extending over a limited period. The study utilized cross country data, which were evaluated by regression analysis. However, a more

encompassing method of analysis could have been used to arrive at a more robust result.

The research of Nushiwat (2007) aimed at investigating the cause of negative correlation in previous research in spite of the sturdy hypothetical propositions for an impact that is positive. The research found that relationship among mutual aid and savings was positive in general, while lag factor was not sustained in approximating aid as a different factor in accordance to its supplies; in both mutual aid and aid sourced from multilateral institutions. The research was based on the two gap theory and the cross country data were evaluated with regression analysis. Nonetheless, it was discovered in the study that nature of data was not properly highlighted. Also, a better method of analysis needs to be used for more robust results.

Cheng, Qiu and Tan (1999) in their study, found that: the transfer of technology through multinational enterprises (MNEs) increased global productivity and transactions in services and also goods. While the existence of many goods was at hand, an incessant decline in the technology expenditure shift would result into more and more technically superior goods to undergo the produce sequence. The study intended to complement the existing literature by explaining FDI made by firms from technologically more advanced economies in technologically less advanced economies. The Ricardian trade model (Two region two good) was utilized, but the study was purely qualitative with no quantitative input. It rather extended the traditional and continuum Ricardian models to feature both international trade and technology transfer via FDI by MNEs. Data should have been tested to justify conclusion with its own empirical findings. The contribution to knowledge would have been, therefore, more precise by putting to test its assertions, which have been based on the selected theories.

The study of Taslim and Weliwita (2000) aimed at contending with the evident variance within the experiential results and the speculations, that regarded savings endeavor being just the prevailing investment limitation. It also aimed at negating the approach and highlights its vital function in growth and investment in the economy. It was summed in the research that: foreign aid had a negative influence which is huge on savings in Bangladesh for the selected period of study, and as a result no significance in advancing investment. This consequently, was not unexpected as to how aid has not attained quite a part that is positive in the country's development economically. The study was based on the no-win situation of theory of poverty and two-gap presumption. Time series data set was analysed with the Cointegration analysis. Nevertheless, it is observed that, if the research had been a comparative analysis, it would have given more robust results. The scope of the study could, therefore, be broadened to avail it a broader range and assertion.

The study of Shah and Ahmed (2003) aimed at determining the cost of capital factor, the strategy of trade and the stipulation of infrastructure publicly owned on flow of FDI. It was based on the Monopolistic Competition Theory and Cobb-Douglas production function. The time series data was analysed with the use of regression analysis, co-integration. It was found in the regression results that: the cost of capital co-efficient, actual costs on infrastructure publicly owned, market size, political dummy and tariff are significant. For the co-integration test, all of the factors were tangible considerably at 1 percent thereby authenticating their existence in the model. (CRGDP was significant at 5 percent and therefore substantiated the strength it had in the model).For the ECM analysis, PCGNP, TARIFF and DM had come out significant factors meanwhile the other variables did not establish their subsistence in the short term. The value of the cost of capital (CCFA) is not significant in the ECM but still contributed to establishing FDI flows. The methods of analysis, however, were sufficient, but the number of years could be increased for a more robust conclusion.

Shamsuddin (1994) in the study which aimed at examining the economic determinants of private foreign investment, established that: the host countrys' market size as determined by GDP per capita was most important factor for attracting FDI, so also cost factor and investment climate of host countries. The per capita foreign aid inflow and volatility in the economy affected foreign capital inflow. Large size of the market, however, and enhanced public foreign aid inflow attracted FDI. The study was based on the premise of single equation econometric model and five stages theory (Dunning) 1973. The cross section data was analysed with the OLS regression technique. However, the period for examination was too limited, there is, therefore, need to increase number of years. Also, the method of analysis could be upgraded for a more robust conclusion.

Sarode (2012) initiated that: foreign capital had a positive impact on capital account and a negative impact on current account. FDI affected the current account and GDP a lot. FDI Granger caused current account shortfalls or otherwise. The negative effect of foreign capital on current account had come into picture for India. The impulse response function (IRF) examination indicated that foreign capital inflow had a negative impact on current account; it suggested that FDI promoted the current account deficit. The positive association between foreign capital inflow and capital account from the Granger causality test was expected. The research, which aimed at finding the link between FDI and its impact on Indian economy, was based on the assertion of the D.W. AIC (Akaike Information Criterion) and SC (Schwarz Criterion). The time series data set made use of the Granger causality test and (IRF). Nevertheless, the theory base of the study was not highlighted. Also, the method of analysis could be upgraded for a more robust result.

2.5 Conclusion

This chapter reviewed related literature by highlighting the conceptual framework of the study, which stated the possible courses of action and presented preferred approach to the research thought of the study. It then enumerated the theoretical framework of the research, and reviewed empirical literature in the related areas of knowledge.

This, therefore, led the researcher to specifically opt for preferred method of analysis in this study that best tested hypothetical research questions to bring forth results, which added to wealth of research knowledge.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter focused on the procedures and analysis of data collected. Having viewed the conceptual framework of the study and related literature, the focus of the research, therefore, shifts to data collection methods and method of analysis. The chapter, therefore, briefly emphasized the theoretical framework of the study, the model specification, *apriori* expectation, data sources, and the technique of estimation of the study.

3.2 Model Specification

A test of the effect of FDI net inflow on economic development is performed in a framework of cross-country regressions, utilizing data on FDI net inflows to thirty-nine African countries for the period 1993-2012. Based on the theory of foreign direct investment, 2-gap theory, it is expected that foreign skill and technology would reduce skill limit, investment reduces savings gap and foreign exchange gap equally. Since these gaps limit development, if they are closed, then possibility of development is imminent (Chenery & Strout, 1966). Hymer (1976) highlighted that developing economies possess low per capita income; thereby, drawing foreign capital as domestic savings become low, at the early stage of development. As development proceeds, the need for capital gradually declines and domestic savings gradually increases so also domestic investment.

The dependent variables are GDP_k, LIEXPT, and EDUI; the annual percentage growth of GDP per capita, life expectancy at birth and education proxy of economic development. They are usually used as indicators of

development in the economy. It is expected that higher GDP_k, LIEXPT, and EDUI are associated with higher level of development in the economy. The independent variables are: Net inflow of foreign direct investment (FDI), Active labour force (L), gross fixed capital formation (K), trade openness (TO), technology (T), the rate of return on investment of capital (ROI), money and quasi money (M_2), level of corruption (CRPT), percentage change in the GDP deflator or consumer price index (INFLT), government final consumption expenditure (GOVTCONS), infrastructure (INFRST), and nominal exchange rates (EXR).

The model is a extension of the research of Lumbila (2005), Prasad et al., (2007) and also Fortanier (2007). This study tested the direct effect of net inflow of FDI on economic development. The model below is, therefore, drawn from the study of Lumbila (2005) and modified by eliminating some variables, namely: institutional quality, the rule of law indicator proxy, and the initial level of GDP per capita, because they are not quite relevant to the study focus. The model included more macroeconomic variables: inflation, exchange rate, money supply and other variables like government final consumption expenditure, infrastructure, and corruption.

The models are stated below:

$$GDP_k = f(L,K,FDI,TO,T,ROI,M_2,CRPT,INFLT,GOVTCONS,INFRST,EX \ldots\ldots\ldots\ldots\ldots \quad (3.1)$$

$$LIEXPT = f(L,K,FDI,TO,T,ROI,M_2,CRPT,INFLT,GOVTCONS,INFRST,EXR) \ldots\ldots\ldots \quad (3.2)$$

$$EDUI = f(L,K,FDI,TO,T,ROI,M_2,CRPT,INFLT,GOVTCONS,INFRST,EXR) \ldots\ldots\ldots\ldots \quad (3.3)$$

The models are stated in Cobb-Douglas form as below:

$GDP_k = AK^{\beta 1}L^{\beta 2}FDI^{\beta 3}TO^{\beta 4}T^{\beta 5}ROI^{\beta 6}M_2^{\beta 7}CRPT^{\beta 8}INFLT^{\beta 9}GOVTCONS^{\beta 10}INFRST^{\beta 11}EXR^{\beta 12}.e$……. (3.4)

$LIEXPT = AK^{\beta 1}L^{\beta 2}FDI^{\beta 3}TO^{\beta 4}T^{\beta 5}ROI^{\beta 6}M_2^{\beta 7}CRPT^{\beta 8}INFLT^{\beta 9}GOVTCONS^{\beta 10}INFRST^{\beta 11}EXR^{\beta 12}.e$…. (3.5)

$EDUI = AK^{\beta 1}L^{\beta 2}FDI^{\beta 3}TO^{\beta 4}T^{\beta 5}ROI^{\beta 6}M_2^{\beta 7}CRPT^{\beta 8}INFLT^{\beta 9}GOVTCONS^{\beta 10}INFRST^{\beta 11}EXR^{\beta 12}.e$…….. (3.6)

The standard Cobb-Douglas Production Function:
$Y = AL^{\beta}K^{\alpha}$
Where: Y = total production (the real value of all goods produced in a year), L = labor input (the total number of person-hours worked in a year), K = capital input (the real value of all machinery, equipment, and buildings), A = total factor productivity α and β are the output elasticities of capital and labor, respectively. These values are constants determined by available technology.

Where GDP_k: the annual percentage growth of GDP per capita

LIEXPT: the life expectancy

EDUI: education proxy

A: Total factor productivity

L: Active labour force

K: Gross fixed capital formation

FDI: Net inflow of foreign direct investment

TO: Trade openness

T: Technology

ROI: Rate of return on investment

M_2: Money and quasi money

CRPT: level of corruption

INFLT: Percentage change in the GDP deflator or consumer price index

GOVTCONS: government final consumption expenditure

INFRST: infrastructure

EXR: nominal exchange rates

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4 \beta_5 \beta_6 \beta_7 \beta_8 \beta_9 \beta_{10} \beta_{11}$ and $\beta_{12:}$ are the coefficients.

The Cobb-Douglas form of the models cannot be estimated directly using the OLS technique since it is non-linear; so it is necessary to transform them into linear form that allows the equation to be estimated. The essence of this is that it provides estimated parameters that can be interpreted directly as elasticity.

To estimate the following equation:

$$lnGDP_k = \beta_0 + \beta_1 lnL + \beta_2 lnK + \beta_3 lnFDI + \beta_4 lnTO + \beta_5 lnT + \beta_6 lnROI + \beta_7 lnM_2 + \beta_8 lnCRPT + \beta_9 lnINFLT + \beta_{10} lnGOVTCONS + \beta_{11} lnINFRST + \beta_{12} lnEXR + \varepsilon_t \quad (3.7)$$

$$lnLIEXPT = \beta_0 + \beta_1 lnL + \beta_2 lnK + \beta_3 lnFDI + \beta_4 lnTO + \beta_5 lnT + \beta_6 lnROI + \beta_7 lnM_2 + \beta_8 lnCRPT + \beta_9 lnINFLT + \beta_{10} lnGOVTCONS + \beta_{11} lnINFRST + \beta_{12} lnEXR + \varepsilon_t \quad (3.8)$$

$$lnEDUI = \beta_0 + \beta_1 lnL + \beta_2 lnK + \beta_3 lnFDI + \beta_4 lnTO + \beta_5 lnT + \beta_6 lnROI + \beta_7 lnM_2 + \beta_8 lnCRPT + \beta_9 lnINFLT + \beta_{10} lnGOVTCONS + \beta_{11} lnINFRST + \beta_{12} lnEXR + \varepsilon_t \quad (3.9)$$

Stating equations (3.7), (3.8) and (3.9) in panel form therefore, we have;

$$lnGDP_k = \beta_{0i} + \beta_1 lnL_{it} + \beta_2 lnK_{it} + \beta_3 lnFDI_{it} + \beta_4 lnTO_{it} + \beta_5 lnT_{it} + \beta_6 lnROI_{it} + \beta_7 lnM_{2it} + \beta_8 lnCRPT_{it} + \beta_9 lnINFLT_{it} + \beta_{10} lnGOVTCONS_{it} + \beta_{11} lnINFRST_{it} + \beta_{12} lnEXR_{it} + \varepsilon_{it} \quad (3.10)$$

$$lnLIEXPT = \beta_{0i} + \beta_1 lnL_{it} + \beta_2 lnK_{it} + \beta_3 lnFDI_{it} + \beta_4 lnTO_{it} + \beta_5 lnT_{it} + \beta_6 lnROI_{it} + \beta_7 lnM_{2it} + \beta_8 lnCRPT_{it} + \beta_9 lnINFLT_{it} + \beta_{10} lnGOVTCONS_{it} + \beta_{11} lnINFRST_{it} + \beta_{12} lnEXR_{it} + \varepsilon_{it} \quad (3.11)$$

$$lnEDUI = \beta_{0i} + \beta_1 lnL_{it} + \beta_2 lnK_{it} + \beta_3 lnFDI_{it} + \beta_4 lnTO_{it} + \beta_5 lnT_{it} + \beta_6 lnROI_{it} + \beta_7 lnM_{2it} + \beta_8 lnCRPT_{it} + \beta_9 lnINFLT_{it} + \beta_{10} lnGOVTCONS_{it} + \beta_{11} lnINFRST_{it} + \beta_{12} lnEXR_{it} + \varepsilon_{it} \quad (3.12)$$

An additional model is specified basically to test Hypothesis 2. This model is specified to find out the resultant effect of rate of return on investment on net inflow of foreign direct investment, alongside with other determinants of FDI inflow.

$$FDI = f(L, K, TO, T, ROI, M_2, CRPT, INFLT, GOVTCONS, INFRST, EXR) \quad (3.13)$$

The equation is thereby estimated thus:

$$lnFDI = \beta_0 + \beta_1 lnL + \beta_2 lnK + \beta_3 lnTO + \beta_4 lnT + \beta_5 lnROI + \beta_6 lnM_2 + \beta_7 lnCRPT + \beta_8 lnINFLT + \beta_9 lnGOVTCONS + \beta_{10} lnINFRST + \beta_{11} lnEXR + \varepsilon_t \quad (3.14)$$

Stating equation (3.14) in panel form we have:

$$lnFDI = \beta_{0i} + \underset{(+)}{\beta_1 lnL_{it}} + \underset{(+)}{\beta_2 lnK_{it}} + \underset{(+)}{\beta_3 lnTO_{it}} + \underset{(+)}{\beta_4 lnT_{it}} + \underset{(+)}{\beta_5 lnROI_{it}} + \underset{(+)}{\beta_6 lnM_{2it}} + \underset{(-)}{\beta_7 lnCRPT_{it}} + \underset{(-)}{\beta_8 lnINFLT_{it}} + \underset{(+)}{\beta_9 lnGOVTCONS_{it}} + \underset{(+)}{\beta_{10} lnINFRST_{it}} + \underset{(-)}{\beta_{11} lnEXR_{it}} + \varepsilon_{it} \quad (3.15)$$

Variable description is as above for the earlier equations, and the signs under equation (3.15) are the *apriori* expectation of the variables in the model.

All data were taken from United Nations Statistical Department, World Bank, World Development Indicators, World Governance Indicators, and African Development Indicators. These are for the specified period from, 1993 till 2012, and for the 39 selected African countries stated in Figure 1.6.1.

To test the hypotheses, data on GDP per capita, life expectancy, education proxy, active labour force, gross fixed capital formation, foreign direct investment, trade openness, technology, rate of return on investment, money supply, level of corruption, inflation, government expenditure, infrastructure, and nominal exchange rate were utilized in host economies. Data on all

variables by country of origin are available from 1993 to 2012, for all the selected 39 African host economies in the sample to test for the direct effect of FDI net inflow on economic development.

***Apriori* Expectation**

The *apriori* expectation of L, K, FDI, TO, T, ROI, M_2, CRPT, INFLT, GOVTCONS, INFRST, and EXR for equations (3.5) to (3.10), are presented in Table 3.2

Table 3.2 *Apriori* Expectations

Variable	Definitions	Apriori Expectation
L	Active labour force	Positive
K	Gross fixed capital formation	Positive
FDI	FDI net inflow	Positive
TO	Trade Openness	Positive
T	Technology	Positive
ROI	Rate of return on investment	Negative
M_2	Money and quasi money (M2)	Positive
CPT	Level of Corruption	Negative
Inflt	Percentage change in the GDP deflator or consumer price index	Negative
Govt. cons.	Ratio of government final consumption expenditure	Positive
Infrst	Telephone mainlines (per 1,000 people)	Positive
Exg Rte	Exchange Rate	Negative

Source: Author's Compilation, (2013).

Justification for the *apriori* expectations

According to the theory of FDI and new growth, FDI net inflow is expected to close the gap of production factors, which limit development and improve growth and living standard for host economies. In an open economy with the ease up of capital account, resistances hampering FDI inflows are lessened, investment enlarges with the boost in investment financed by international saving, resulting in a stable progress of home interest rates in the direction of global interest rates, and consequently greater investment and more rapid economic growth (Prasad *et al.,* 2007). This results in the expected positive relationship between FDI net inflow and development.

The Sustainable Livelihood Theory emphasizes the capability of FDI as a form of physical capital to bring about the development of host country's economies. This is done through the process of enhancing the domestic sector, by endearing healthy competition through a diffusion process. Linkages that increase productivity and employment will ultimately increase economic efficiency and ultimately result in permanent growth rates. This, if enhanced and maintained in the long run, will develop the well being of the present and future generations.

Variable like return on investment has a positive relationship with FDI net inflow, as the higher the rate of return, the higher the inflow of FDI, and economic growth (Asiedu, 2002). Human capital, gross fixed capital formation, trade openness, infrastructure, and money supply also, according to theory, have a positive relationship with development. These factors encourage the inflow of FDI, enhance economic activities, investment, and encourage development in the economy.

Variables like inflation and exchange rate could have negative relationship, because they could deter investment activities as they increase in magnitude relative to trading partners'. This invariably means as the value rises, development could

decrease, hence the negative relationship. This is also usually the case with government final consumption expenditure and corruption. As their magnitudes rise, they could reduce investment possibilities and development, hence, the negative relationship between these factors and development.

3.3 Technique of Estimation

The technique for estimation adopted in this study is the fixed effect least square dummy variable (LSDV) model. The model is known as the fixed effect (regression) model. Each entity's intercept does not vary over time, that is, it is time-invariant. It is assumed that the (slope), that is, the coefficient of the regressors do not vary across countries or over time. This allows for the fixed effect intercept to vary among the countries by using the dummy variable technique with proper avoidance of the dummy-variable trap, which is a situation of perfect collinearity. Also, a non-paramteric analysis, specifically the Lowess Smoothing, was also used to ascertain the existing relationship between the variables and their trend pattern over the specified period.

The reason for its use is because it permits for diversity within subjects by permitting every unit to possess their own coefficients of the slope and unlike pooled regression model, it does not bias the slope estimate. Heterogeneity is needed in the study because it is a cross country study; differences across the distribution of countries would be well captured with the fixed intercept varying across the countries. The software package used in the analysis of panel data is the STATA 10.0 because it is user friendly and it puts together the capability of really employing panel data regression in a relatively straightforward manner. It also provides heteroskedasticity correlated standard errors in panel data regression model.

The data was evaluated in a number of sections. The examination began with a development theory that incorporated the annual percentage growth of per capita

GDP, life expectancy and education, which are all proxies of economic development. These models were then broadened so as to determine if the impact of net inflow of foreign capital inflow varies among home economies and the effect that it has on development in the region, considering carefully the periods of financial crises. Also, the effect of socio-economic variables in determining FDI net inflow was ascertained in the analysis of the study. Thus equations (3.7), (3.8), and (3.9) as stated above, were approximated utilizing all factors in the dataset to enable us not just only to seize the opportunity of the gains of collecting data, however also to contemplate the aspect of time in the association among foreign capital net inflow and economic development.

3.4 Data Sources and Measurement of Variables

This section explains the data utilized in the experiential examination. Since the theory centers on the foreign capital flows to the region, net inflow is more preferably used. The association between FDI net inflow and economic development was controlled for by other socio-economic variables. The inflow of foreign capital to least developed economies of Africa is essential for economic development. If net inflow of FDI is positive, it is expected to add to capital formation of home economy through the swift and proficient transfers of administrative and technological 'best practices' in addition to transfer of technology (Moodley, 2006).

The New Growth Model stimulated a previous custom of reasoning concerning the impacts of rising earnings. Increasing returns was viewed as either a real or an hypothetical prospect (Buchanan & Yoon, 1994). The key difference between the new growth and endogenous growth theory is positioned in the task of embedded benefits or overflows from information supplies that the endogenous growth theory proposed. In actual fact, the research of foreign capital flows as a compelling force of economic development in domestic economies through the transfer of technology,

circulation and impacts of spillover is derived from the endogenous growth analysis (Nair-Reichert & Weinhold, 2001). Thus, subsequent to Prasad *et al.,* (2007), Fortanier (2007) and Lumbila (2005), the direct effect of net inflow of foreign capital on economic development was approximated utilizing theory wherein GDP per capita, life expectancy and education proxy were dependent upon FDI as well as other socio-economic variables. For Table of sources of variable and measurement, refer to Table A3.1, Appendix III.

3.5 Methods of Analysis

Pooled data were used for the analysis and for the test of hypothesis; this is because it has space, and as well as time dimensions. For time series and cross-sectional observations greater than fifteen years with balanced panel, panel unit root test needs to be carried out on pooled data to ensure that resuts are not spurious. (Wei, 2006). This study employs pooled data for thirty-nine African countries for the period of twenty years; therefore the conditions for panel unit roots test of time series and cross-sectional observations greater than fifteen years and balanced panel data are met by the pooled observations of the study.

The study employed non-parametric Fisher-type test, which uses the Augumented Dickey Fuller (ADF) test. This method is used because the ADF test conducts unit root tests for each time series individually and then combines the p-values from these tests to produce an overall test. The ADF test combines information based on individual unit root test and allows for a heterogenous alternative hypothesis where probability values can vary across countries. The null and alternative hypotheses are formulated as:

H_0: All panels contain unit roots.

H_1: At least one panel is stationary

There are several methods of panel data analysis. They range from the pooled OLS regression or constant coefficient model, the fixed effect least-square dummy variable model, the fixed effect within groups estimators, and the random effect model. However, the fixed effect least-square dummy variable model is utilized in the study because of its ability to remain time-invariate and also to keep each variable's intercept constant by using the dummy-variable technique. Also, the Lowess Smoothing non-parametric analysis is utilized in the study because if its ability to represent graphically the impact of change of a variable on another.

3.6 Conclusion

This chapter emphasized the theoretical framework of the study, a detailed specification of model, it highlighted the *apriori* expectation of the study, data sources and measurement mode of the selected variables. The data were sufficiently described alongside sources. The technique of estimation utilized in the study is the fixed effect least square dummy variable (LSDV) model and the Lowess Smoothing Nonparametric analysis. The (LSDV) was preferably selected amongst other analysis methods of pooled data because of its ability to permit heterogeneity among the selected variables and the non-biased status of the slope estimate (Gujarati, 2009).

This leads us into the next chapter where analysis was made on tested results of collected data, to help inform the impact of net inflow of foreign direct investment and other socio-economic variables on economic development in the African region.

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter focuses on the discussion of results, presentation of result Tables and interpretation of results from the analysis of data collected. The chapter, therefore, briefly summarizes the result analysis noting pertinently the significance of variables, particularly the influence of foreign direct investment and other socio-economic variables on economic development, taking into cognizance the regional classification of Africa and the varying impact as may be observed.

4.2 Analysis of Descriptive Statistics

This section of the study provides summary statistics of variables. These summaries are both quantitative and visual. They formed the basis of the initial description of the data as part of a more extensive statistical analysis. This section comprises of both the descriptive statistics and the correlation matrix analysis. In our descriptive analysis, we described each variable in terms of reporting measures of central tendency, these described the way our data tend to cluster around the same value. However, in our correlation matrix analysis, since the study made use of multiple variables, we described relationship between them by making use of quantitative measures of dependence of which the study used the correlation test to describe statistical relationship between the variables and also graphical representation through the use of scatter plots and line plots.

The descriptive analysis explores each variable in a data set separately, looking at the range of values as well as the central tendency of the values. It describes the pattern of response to the variable, by describing each variable on its own.

Using equation (3.10) in chapter three, where the income measure of economic development was adopted, we, therefore, present Table 4.2, which represents the measure of central tendency of our data. It presents the results of normality tests for random variables with different numbers of observations of data randomly generated from the standard normal distribution. From Table 4.2, it can be seen that the variables are well distributed and normally clustered around same value.

The descriptive analysis chart shown in Table 4.2 highlights, the means, standard deviations and number of observations in the data set. Money supply has the highest mean value, which is 8.00e+11, alongside with Capital formation and Government expenditure having their mean values as 5.80e+11 and 4.18e+11 respectively. Also, variables with very high means are Foreign direct investment and inflation, which have their mean values as 6.20e+08 and 5.08e+08 respectively, while the variables with the least means are Corruption, Infrastructure and Technology with their mean values as 3.075457, 3.587423 and 4.243529 respectively. In the same vein, standard deviation, which shows how far each observation is from the mean, follows the same precedence as laid by mean value, the highest standard deviation values are Money supply, Capital formation, Government expenditure, Foreign direct investment and Inflation with their values as 2.10e+12, 1.48e+12, 1.05e+12, 1.73e+09 and 1.42e+10 respectively. Those with the least value of standard deviation are Corruption, Infrastructure and Technology with their standard deveiation values as 0.6593374, 5.048051

and 7.993385 respectively. Number of observation for all variables alike is seven hundred and eighty (780) observations.

Table 4.2

Analysis of Descriptive Statistics

Variable	Mean	Std. Dev	Obvs
GDP_k	1880.664	2792.914	780
FDI	6.20e+08	1.73e+09	780
L	6025364	8113117	780
K	5.80e+11	1.48e+12	780
TO	61.20634	31.47628	780
T	4.243529	7.993385	780
ROI	21.67378	11.5757	780
M_2	8.00e+11	2.10e+12	780
CRPT	3.075457	0.6593374	780
INFLT	5.08e+08	1.42e+10	780
GOVTCONS	4.18e+11	1.05e+12	780
INFRST	3.587423	5.048051	780
EXR	589.3636	1905.187	780

Source: Author's Compilations (2013)

4.3 Correlation Matrix Analysis

In this section of the study, we considered the use the Correlation Test to describe statistical relationship between the selected variables. In the correlation result matrix in Table 4.3, it is deduced that varied relationship exists between the variables, and since the major reason for test is to ascertain the possible presence of multicollinearity, results do not show its presence between the variables. Only few instances noted between government expenditure, gross fixed capital formation, and money supply that recorded rather high degree of positive correlation between variables.

Table 4.3 Correlation Results Matrix

	FDI	L	K	TO	T	ROI	M_2	CRPT	INFLT	GOVTCONS	INFRST	EXR
FDI	1.0000											
L	0.4997	1.0000										
K	0.0837	0.0793	1.0000									
TO	0.0271	-0.1837	0.0398	1.0000								
T	0.3274	0.1760	0.0241	0.1082	1.0000							
ROI	-0.0026	-0.2735	0.1194	0.4023	0.1613	1.0000						
M_2	0.3003	0.3192	0.8098	0.0432	0.2072	0.0246	1.0000					
CRPT	-0.0286	-0.0847	-0.0544	-0.0697	0.0635	0.1946	-0.0552	1.0000				
INFLT	-0.0144	-0.0206	-0.0139	-0.0160	-0.0189	-0.0416	-0.0136	0.0231	1.0000			
GOVTCONS	0.1307	0.1488	0.9275	0.0172	0.0404	0.0022	0.8365	-0.0596	-0.0140	1.0000		
INFRST	0.1479	-0.0724	-0.1471	0.0652	0.4718	0.1446	-0.0762	0.2420	0.0145	-0.1600	1.0000	
EXR	-0.0640	-0.1174	0.2674	-0.0472	0.1118	0.1092	0.1954	-0.0111	-0.0111	0.2301	-0.0653	1.0000

Source: Author's Compilation (2013)

4.4 Graphical Representations

Line graphs were used in this section to describe our analysis for better description of our variables and also to see their relationships and behavioral patterns. The trend of variables over the specified period in the study showed us how the variables had been performing over the years and this could give us an understanding of the variables reactions over the years. The line graphs are presented below:

Graph A4.1 in Appendix IV represents the trend and pattern of FDI net inflow over the period of study, a radical increase in FDI net inflow can be seen in the African region within 2005 and 2008. A fall was experienced between 2008 and 2010; this period was noted as the period of the sub-prime mortgage crisis. The net inflow of FDI again picked up about 2011, with continued increase in flow.

The graph A4.2 in Appendix IV represents the trend of GDP per capita for African countries that have benefited from FDI net inflow over the specified period. It can be seen from the trend graph that GDP_k has consistently increased except for a very short period, specifically between 2008 and 2010, which is noted as the period of sub-prime mortgage crisis. This is the same period when there was a decline in FDI net inflow. FDI net inflow is expected to close income gaps by increasing GDP per capita and hence increase saving and consequently investment to close the income gap.

The trend pattern of Life Expectancy as a measure of economic development can be seen in graph A4.3 in Appendix IV. There was a slight decline between 1995 and 2000. The pattern of the graph changed to a continuous increase, however, from year 2000. This shows a pattern of economic development as it relates to better life expectancy of the African region.

The trend line of education proxy, which is represented by primary school enrolment, depicts that there has been continuous increase in school enrolment over the years. This shows that the level of education has been on the increase though at a very low magnitude. From the trend graph of the education proxy graph A4.4 in Appendix IV, it can be deduced that the level of education has been increasing constantly over the years, irrespective of the years when net inflow of FDI declined. This, therefore, reveals that the level

of education is determined by other factors particularly government education policies in several levels of government as well as improvement in primary activities.

Graph A4.5 in Appendix IV represents the trend of Domestic Investment in the African Region. From the trend graph, it can be seen that domestic investment has also gradually increased even though at a low proportion before the year 2000, after which it increased at a higher magnitude. This increase, however, is only in relative terms because, in comparism with inflow of FDI, domestic investment has not increased as observed in the lowess smoother graph depicted in Graph A4.11 also in Appendix IV. The likely reason for the gaps of investment not being closed by FDI is direction and sector that FDI is flowing into, being capital intensive resource exploitation such as the oil sector, which do not impact significantly on domestic investment as would have been the case if it were investment in the real sector and agriculture.

Likewise for Graphs A4.6, A4.7 and A4.8 also in Appendix IV presents the trend pattern and behavior of ROI, TO and T respectively. The rate of return on investment has been increasing though at a slow rate over the years. Trade openness has, however, increased at a faster pace, though a slight decline occurred in 1998 and about 2008 also. Technology has been relatively low in the region up until the year 2000. However, the increase became increasingly stable and strong by about year 2008.

Graph A4.10 in Appendix IV represents the trend of foreign exchange gap with net inflow of foreign direct investment in the African region through the Lowess Smoother Nonparametric test. From the trend graph, it can be seen that as FDI increased over the years, the gap of foreign exchange has also

widened over the years for the African region. Graph A4.11 in Appendix IV represents the trend of domestic investment with the net inflow of foreign direct investment in the African region, also through the Lowess Smoother Nonparametric test. From the graph it is noted as FDI increased over the years, there is a decline in domestic investment for the African region. This is likely so because sector that FDI flows into do not impact on domestic investment.

4.5 Diagnostic Tests

In analyzing the study data, several tests have been carried out on data to ascertain the impact and relationship of the variables. These tests include:

Panel Unit Root Test

Pooled Regression Analysis

Fixed Effect Regression

Random Effect Regression

Lowess Smoothing Nonparametric Analysis

Table 4.5a Unit Roots Test

Unit Roots Test- Augmented Dickey-Fuller Tests		
Variables	**Chi-Squared Statistics**	**Remark**
gdp_k	124.66 (0.0006)	Stationary
Edui	195.75 (0.0000)	Stationary
Liexpt	279.55 (0.0000)	Stationary
Fdi	81.83 (0.0086)	Stationary
L	401.19 (0.0000)	Stationary
K	263.14 (0.0000)	Stationary
To	171.93 (0.0000)	Stationary
T	1282.31 (0.0000)	Stationary
Roi	110.57 (0.0090)	Stationary
m_2	186.41 (0.0000)	Stationary
Crpt	412.90 (0.0000)	Stationary
inflt	276.06 (0.0000)	Stationary
govtcons	160.50 (0.0000)	Stationary
infrst	175.21 (0.0000)	Stationary
exr	543.68 (0.0000)	Stationary
Number of Panels 39 Number of Periods 20		

Source: Author's Compilation, (2013)

From the analysis of the result in Table 4.5a, the unit root test presentation, all variables are significant at 1 percent level of significance. This indicates that they are all stationary at 1 percent. To this end, therefore, we hereby reject the null hypothesis that all panels contain unit roots. We, hereby, accept the alternative hypothesis that at least one panel is stationary. Since all are stationary, we, hereby, proceed to the pooled regression analysis as results are reliable and not spurious.

The models fitted on the data meet the asymptotic assumptions of the Hausman test. This, therefore, is the reason for adopting the fixed effect regression analysis.

Table 4.5b Hausman Test

	(b)	**(B)**	**(b-B)**
	Fixed	**RANDOM**	**Difference**
LnFDI	-0.009	-0.009	0.0002
LnL	0.078	0.044	0.034
LnK	0.113	0.116	-0.003
LnTO	0.206	0.207	-0.001
LnT	0.044	0.024	0.019
LnROI	-0.086	-0.075	-0.011
LnM_2	-0.095	-0.058	-0.036
LnCRPT	-0.032	-0.018	-0.014
LnINFLT	0.004	0.003	0.0004
LnGOVTCONS	-0.064	-0.070	0.006
LnINFRST	0.100	0.086	0.014
LnEXR	0.054	0.022	0.032

χ^2 =47.48(0.0000)

Source: Author's Compilation (2013)

Since the Hausman test is significant as indicated in the Table 4.5b above, considering the level of significance, it indicates that there is significant difference. Therefore, both methods (i.e. fixed and random effect) are not appropriate; rather, we justify the use of the fixed effect regression analysis.

4.6. Discussion of Results

Equations (3.10), (3.11) and (3.12) in chapter three were estimated to obtain the results in Table A6.1 in Appendix VI. Regressions I, II and III columns show the results of the equations where GDP_k, LIEXPT and EDUI are dependent variables respectively, estimating economic development in partial context.

The results in Table A6.1 showed that R^2 and Adjusted R^2 for GDP_K are 0.9780 and 0.9762 respectively. The result shows that the independent variables explain the respective variations of the income proxy used to measure economic development. For the *t*-statistics, the result shows that the variables are significant as most of the values are above 2, thereby, showing level of significance. The *F*-statistics has a value of 552.24(0.0000), which shows that it is significant at 1 percent level in explaining the income proxy of economic development. It can be noted from the results, therefore, that for regression I, where GDP_k is income per capita (proxy of economic development), FDI net inflow is significant at 5 percent. The coefficient of FDI net inflow is inelastic, that is, the coefficient employed in measuring the elasticity is less than one in absolute values. This means that a one percent change in FDI net inflow brings about a less than one percent change in economic development. This is an explanation why even though FDI net

inflow has significant impact on economic development; the impact is minimal for the selected African countries.

For variables such as the gross fixed capital formation, trade openness, technology, rate of return on investment, level of money supply, government final consumption expenditure, infrastructure and exchange rate, they are significant at one percent level in explaining income (proxy of economic development - GDP_K). The coefficients of trade openness, technology, money supply, government final expenditure, infrastructure and exchange rate are inelastic; that is, the coefficients employed in measuring the elasticities are less than one in absolute values. This implies that a one percent change in trade openness, technology, money supply, government final consumption expenditure, infrastructure and exchange rate will bring about a less than one percent change in GDP_K (proxy of economic development).

The coefficients of gross fixed capital formation and rate of return on investment are elastic, that is, the coefficients employed in measuring the elasticities are greater than one in absolute values. This implies that a one percent change in gross fixed capital formation and rate of return on investment brings about a greater than one percent change in economic development. The net inflow of FDI and these other factors are to create an enabling environment for increased economic activities and, therefore, increase productivity. It is obvious from the result that the magnitude of change for Africa has been minimal; thus, the reason for the slight impact on the income proxy estimating economic development. However, labour, inflation and corruption are not significant in explaining income proxy of economic development. Also, a negative relationship for corruption is observed with economic development which is in line with the *apriori* expectation. Again, the index used to capture corruption, which is the

Worldwide Governance Indicator, probably did not fully measure level of corruption for the region, this could be the reason, therefore, why it did not capture significance as expected.

Regression II, where LIEXPT (life expectancy at birth) is proxy of economic development, the following observations are identified from the estimated results. The R^2 and Adjusted R^2 for LIEXPT are 0.9484 and 0.9443 respectively; these reveal that independent variables explain the respective variations in life expectancy proxy of economic development. The *t*-statistics are significant and the *F*-statistics has a value of 228.30(0.0000), which shows that it is significant at 1 percent level in explaining the life expectancy proxy of economic development. FDI net inflow is significant at 5 percent. The coefficients of FDI net inflow is inelastic, that is, the coefficients employed in measuring the elasticities are less than one in absolute values. This implies that a one percent change in FDI net inflow will bring about a less than one percent change in economic development. Invariably, though FDI net inflow has a significant impact on economic development, the impact is minimal on host African countries' economic development.

The active labour force is significant at one percent level in explaining life expectancy at birth (proxy of economic development). This implies that, the coefficients of labour are inelastic, that is, the coefficients employed in measuring the elasticities, are less than one in absolute values. This implies that a one percent change in labour will bring about a less than one percent change in economic development. This invariably is likely so because active labour force performance could produce better expectancy in life, though the impact is slight for the host African countries.

Technology, the level of money supply, government final comsumption expenditure and exchange rates, are also significant in explaining economic development at 1 percent level.This implies that, the coefficients of technology, the level of money supply, government final comsumption expenditure and exchange rates are inelastic, that is, the coefficients employed in measuring the elasticities are less than one in absolute values. It follows that a one percent change in technology, the level of money supply, government final consumption expenditure and exchange rate will bring about a less than one percent change in life expectancy proxy of economic development. There is the theoretical affirmation that the technological diffusion, which is a form of flow of capital brings about transfusion of knowledge; thus, the reason for the significant effect on economic development, (Borensztein *et al.*, 1998). This is true for the host African countries, though the impact is minimal.

Rate of return on investment is significant at 5 percent level in explaining economic development, in addition, the coefficient of rate of return on investment is inelastic, that is, the coefficient employed in measuring the elasticity is less than one in absolute value. This implies that a one percent change in rate of return on investment will bring about a less than one percent change in economic development. However, gross fixed capital formation, trade openness, corruption, inflation and infrastructure, are not significant on economic development.

For regression III, where EDUI (level of education) is proxy of economic development, the following observations are highlighted from the estimated result. The R^2 and Adjusted R^2 for EDUI are 0.8213 and 0.8069 respectively. The results show that the independent variables explain the respective variations of the level of education (proxy of economic development). For the

t-statistics, the results show that the variables are significant, as most of the values as contained in the Table A6.1 in Appendix VI are above 2, thereby showing level of significance. The *F*-statistics has a value of 57.09(0.0000) which shows that it is significant at 1 percent level in explaining the level of education proxy of economic development. FDI net inflow is significant at 5 percent level. The results show that the coefficient of FDI net inflow is inelastic, that is, the coefficient employed in measuring the elasticity is less than one in absolute value. This implies that a one percent change in FDI net inflow will bring about a less than one percent change in economic development. This shows that, though FDI is significant in explaining economic development in the selected African countries, the seeming improvement in the level of education of the inhabitants of the host nations is minimal and it probably as a result of other factors.

The gross fixed capital formation, active labour force, trade openness, technology, rate of return on investment, corruption, inflation and government final consumption expenditure are significant at 1 percent level in explaining EDUI (proxy of economic development). The level of money supply is significant, however, at 5 percent level. The coefficients of gross fixed capital formation, active labour force, trade openness, technology, rate of return on investment, corruption, inflation, level of money supply and government final consumption expenditure are inelastic, that is, the coefficients employed in measuring the elasticities are less than one in absolute values. This implies that a one percent change in gross fixed capital formation, active labour force, trade openness, technology, rate of return on investment, corruption, inflation, level of money supply and government final consumption expenditure, will result in a less than one percent change in EDUI (as proxy of economic development). This is possibly so because the impact of domestic investment and other macroeconomic factors especially

corruption, which is significant on economic development, will not permit expected impact of FDI as desired on economic development. This probably explains minimal impact, despite their significance. However, infrastructure and exchange rate are not significant in explaining the EDUI (proxy of economic development).

4.7 Robustness Test

In addition to the above estimation of results, this study also examined the robustness of the variables used in the result estimation. This was attained by estimating the model, which was specified as equation (3.10) in chapter three; appraising economic development utilizing the income proxy (GDP per capita). It examined the impact of the net inflow of foreign direct investment and other macroeconomic variables on economic development. This was done by testing how the other variables reacted to economic development. In this test, vital variables were expunged from the estimated model to specify the validity of the selected variables. This, thereby, ensured that the selected variables best represent the model, and hence give the best estimate of results and interpretation. The test is however highlighted in Tables A6.2a and A6.2b in Appendix VI, where FDI with TO and K with ROI were expunged, respectively.

Table A6.2a in Appendix VI shows the effect of removing from the model, both FDI and TO. It makes a clear comparison with initial and current state of expunging the variables. It can be clearly seen that there is minimal effect on the coefficients and also the general level of significance of the individual variables. This is an indication to the fact that the selected variables well define the models and that they best measure the concept of the study. There was also only slight change, in the R^2 and Adjusted R^2 as can be seen in the

Table that R^2 was 0.9780; 0.9775; and 0.9780; 0.9763 for both FDI and TO respectively, before and after elimination of the variables. Also, the Adjusted R^2 was 0.9762; 0.9759 and 0.9762; 0.9744 for both FDI and TO respectively before and after elimination of the variables. This is to further buttress the validity of the selected data set.

To further examine the robustness of the results, an additional test was carried out by eliminating both gross fixed capital formation and rate of return on investment. Clearly from the selection of variables, both are inter-related as the rate of return on investment is computed from the gross fixed capital formation. As presented in Table A6.2b in Appendix VI, when gross fixed capital formation (K) was expunged, it was observed from results that, there was minimal effect on the coefficients and also the general level of significance, of the individual variables. This is an indication of the fact that the selected variables well define the models and that they best measure the concept of the study.

Similarly, when the rate of return on investment was equally eliminated from the model, the estimated results showed that there were only slight changes in the coefficients and the general level of significance, of individual variables in the estimated results. Also, R^2 and Adjusted R^2 as can be seen in the Table, changed slightly; R^2 was 0.9780; 0.9775; and 0.9780; 0.9763 for both K and ROI respectively, before and after elimination of variables. Also, Adjusted R^2 was 0.9762; 0.9759 and 0.9762; 0.9744 for both K and ROI respectively, before and after the elimination of variables. This is to further buttress the validity, of the selected data set.

4.8. Sensitivity Test

In addition to the above robustness of the estimated results, this study also

examined the sensitivity of the results. This was achieved by estimating the model utilized in examining the impact, of net inflow of foreign direct investment and other macroeconomic variables on economic development. This was done by testing how each sub-region of Africa responded variably. The model was specified as equation (3.10), in chapter three. The test was done in three segments viz:

Estimation results by region;

Income level classification test; and

Outliers effect test.

4.8.1 Estimation Results by Region

Using GDP_K as the proxy of economic development, we present Table A6.3a in Appendix VI; that estimated equation (3.10). From the results, the R^2 and Adjusted R^2 for the Central sub-region are 0.9867 and 0.9843 respectively; Eastern sub-region are 0.9832 and 0.9810 respectively; Northern sub-region are 0.9903 and 0.9885 respectively, Southern sub-region are 0.9937 and 0.9923 respectively and the Western sub-region are 0.9586 and 0.9529 respectively. The results show that the independent variables explain the respective variations in the dependent variables used to measure economic development. For the *t*-statistics, the results show that the variables are significant as most of the values as contained in the Table A6.3a in Appendix VI are greater than 2, thereby showing level of significance. The *F*-statistics has a value of 408.40(0.0000) for the Central sub-region; 439.22(0.0000) for the Eastern sub-region; 530.02(0.0000) for the Nothern sub-region; 719.04(0.0000) for the Southern sub-region and 167.71(0.0000) for the Western sub-region. This shows that there is significance at 1 percent level for all sub-regions alike in explaining the income proxy of economic development for the five regressions in Table A6.3a in Appendix VI, as each regression shows high level of significance.

FDI is significant at 5 percent level for the Central and Eastern Africa sub-region, but not significant for the Northern, Southern and Western Africa sub-region. This implies that for Central and Eastern Africa sub-region, FDI has a significant impact in explaining income as proxy of economic development. This invariably means that the FDI net inflow for these two sub-regions has a significant impact in explaining income, thereby it could gradually close the gap of investment as income increases. This though, is not notably seen in the Northern, Southern and Western sub-regions of Africa. However, the coefficients of FDI employed in measuring elasticities are less than one in absolute values in all the Central and Eastern sub-regions. This implies that a one percent change in FDI brings about a less than one percent change in economic development. In terms of the coefficient values, FDI have higher values in the Eastern sub-regions, than the Central sub-regions. Also, looking at the inelasticity for these sub-regions that have significant impact, only a little magnitude of change will be experienced in the regions as pertaining to level of economic development.

Active labour force, gross fixed capital formation, rate of returns on investment, money supply and exchange rate, are significant across board for all the sub-regions alike. The coefficients of the active labour force employed in measuring elasticities are less than one in absolute values in the Eastern, Northern and Southern sub-regions, that is, a one percent change in labour force brings about a less than one percent change in economic development. While in the Central and Western sub-regions, the coefficients of the active labour force, employed in measuring elasticities, are greater than one in absolute values, that is, a one percent change in labour force brings about a greater than one percent change in economic development. Concerning gross fixed capital formation, the coefficient employed in measuring elasticities are

less than one in absolute values in the Eastern, Northern, Southern and Western sub-regions, that is, a one percent change in K, brings about a less than one percent change in economic development. However, in the Central sub-region, the coefficient employed in measuring elasticity is unitary elastic, that is, it is equal to one in absolute value. This implies that a one percent change in K brings about a proportionate change in economic development.

As regards rate of returns on investment, the coefficients employed in measuring elasticities are less than one in absolute values in the Central, Eastern, Northern and Southern sub-regions, that is, a one percent change in the rate of return on investment brings about a less than one percent change in economic development. However, in the Western sub-region, the coefficient employed in measuring elasticity is elastic in absolute value, that is, a one percent change in the rate of return on investment brings about a greater than one percent change in economic development. The coefficients of money supply employed in measuring elasticities are less than one in absolute values in all the sub-regions. This implies that a one percent change in money supply brings about a less than one percent change in economic development. The coefficients of exchange rate employed in measuring elasticities are less than one in absolute values in all the African sub-regions. This indicates that a one percent change in exchange rate brings about a less than one percent change, in economic development.

Trade openness is significant in explaining $GDP_{K,}$ only in the Central and Eastern sub-regions. The coefficients of trade openness employed in measuring elasticities are less than one in absolute values in all the sub-regions, that is, a one percent change in trade openness brings about a less than one percent change in economic development. Technology is significant in all the sub-regions, except, in the Eastern sub-region. The coefficients of

technology employed in measuring elasticities are less than one in absolute values in all the sub-regions, that is, a one percent change in technology brings about a less than one percent change in economic development. The level of corruption is significant in explaining economic development in the Western sub-region, but not not in explaining economic development in other sub-regions, though the expected negative relationship is observed. This indicates that in the Western sub-region, the impact of corruption in measuring economic development is as expected very high at 1 percent level of significance, explaining why the impact of FDI is minimal for the sub-region along with other sub-regions on economic development. However, inflation is not significant in explaining economic development in all sub-regions.

Government expenditure is significant in all the sub-regions, with the exception of the Northern sub-region. The coefficients of government expenditure employed in measuring elasticities are less than one in absolute values in all the sub-regions, that is, a one percent change in government expenditure brings about a less than one percent change, in economic development. Infrastructure is significant in explaining economic developmemt in the Eastern and Northern sub-regions, but not significant in the other sub-regions. In addition, the coefficients of infrastructure employed in measuring elasticities in the Eastern and Northern sub-regions are less than one in absolute values in all the sub-regions; that is, a one percent change in infrastructure brings about a less than one percent change, in economic development.

Table A6.3b in Appendix VI, presents results that estimates equation (3.11), using life expectancy (LIEXPT) as proxy of economic development. From the results, the R^2 and Adjusted R^2 for the Central sub-region, are 0.9789 and

0.9750 respectively; Eastern sub-region are 0.9706 and 0.9666 respectively; Northern sub-region are 0.9947 and 0.9936 respectively, Southern sub-region are 0.9044 and 0.8834 respectively and the Western sub-region are 0.9899 and 0.9885 respectively. These indicate that the independent variables explain respective variations in the dependent variables that are used to measure economic development. For the *t*-Statistics, the results show that the variables are significant as most of the values as contained in the Table A6.3b in Appendix VI are greater than 2, thereby showing level of significance. The *F*-statistics has a value of 254.55(0.0000) for the Central sub-region; 247.21(0.0000) for the Eastern sub-region; 996.47(0.0000) for the Northern sub-region; 43.15(0.0000) for the Southern sub-region and 707.04(0.0000) for the Western sub-region. This shows that there is significance at 1 percent level in explaining the life expectancy proxy of economic development, for the five regressions in Table A6.3b in Appendix VI, as each regression, show high level of significance.

FDI is significant only at 10 percent level in explaining economic development for the Eastern sub-region, but not significant in explaining economic development for the other sub-regions. It is implied from the result that, only for the Eastern sub-region does FDI have significant impact in explaining life expectancy, as proxy of economic development. This invariably means that the FDI net inflow for this sub-region impacts in explaining the life expectancy of the inhabitants, however, minimally considering the coefficients' inelaticity. This, if persistent in the sub-region, could gradually bring notable development. Also, the coefficients of FDI net inflow employed in measuring elasticities, are less than one in absolute values in the Eastern sub-region, that is, a one percent change in FDI net inflow, brings about a less than one percent change, in economic development.

Active labour force and trade openness, are significant in explaining economic development in the Eastern, Northern, Southern and Western sub-regions of Africa, but not significant in explaining economic development in the Central African sub-region. In addition, the coefficients of labour and trade openness employed in measuring elasticities, are less than one in absolute values in the Eastern, Northern, Southern and Western sub-regions, that is, a one percent change in labour and trade openness brings about a less than one percent change, in economic development. Technology and money supply are not significant in the Southern sub-region, but significant in other sub-regions. For technology and money supply, the coefficients employed in measuring elasticities are less than one in absolute values in the Eastern, Northern, Central and Western sub-regions, that is, a one percent change in technology brings about a less than one percent change in economic development.

In Table A6.3b, the gross fixed capital formation is significant in explaining economic development in the Northern and Western sub-regions, but not significant in explaining economic development in the other sub-regions. This is probably so because domestic investment was tangible even though minimal as observed from the result for these sub-regions. The coefficients of capital employed in measuring elasticities are less than one in absolute values in the Northern and Western sub-regions, that is, a one percent change in capital brings about a less than one percent change in economic development. This, invariably, explains why for these sub-regions, the inelaticity of the coefficients of domestic investment does not result into economic development.

The rate of return on investment is significant in explaining economic development only in the Southern and Western sub-regions of Africa, but it is not significant in the other sub-regions of Africa. However, the coefficients of returns on investment employed in measuring elasticities are less than one in absolute values in the Southern and Western sub-regions, that is, a one percent change in returns on investment brings about a less than one percent change, in economic development. The level of corruption is significant in explaining economic development in the Central, Eastern and Southern sub-regions of Africa, but it is not significant in explaining economic development in the other sub-regions. However, the expected negative relationship between the level of corruption and economic development is observed in these regions. This probably explains why FDI is impacting minimally the level of economic development for the sub-regions. In addition, the coefficients of the level of corruption employed in measuring elasticities are less than one in absolute values in the Central, Eastern and Southern sub-regions, that is, a one percent change in the level of corruption, brings about a less than one percent change, in economic development.

Inflation also is significant in explaining economic development in the Northern and Southern sub-regions of Africa, whereas, not significant in other sub-regions. However, the coefficients of inflation employed in measuring elasticities are less than one in absolute values in the Northern and Southern sub-regions, that is, a one percent change in inflation brings about a less than one percent change in economic development. Government expenditure is not significant in explaining economic development in the Southern and Western sub-regions, but it is significant in explaining economic development in the other sub-regions of Africa. In addition, the coefficients of government expenditure employed in measuring elasticities are less than one in absolute values in the Central, Eastern and Northern sub-

regions, that is, a one percent change in government expenditure brings about a less than one percent change in economic development.

Infrastructure is significant in explaining economic development in the Eastern, Northern and Western sub-regions, but it is not significant in explaining economic development in the other sub-regions of Africa. This is probably so because even though at a minimal level, investment in infrastructure is impacting significantly the level of economic development in these sub-regions. The coefficients of infrastructure employed in measuring elasticities are less than one in absolute values in the Eastern, Northern and Western sub-regions, that is, a one percent change in infrastructure brings about a less than one percent change in economic development. Exchange rates, however, are significant in all sub-regions of Africa; in addition, the coefficients of exchange rate employed in measuring elasticities are less than one in absolute values in all the sub-regions, that is, a one percent change in exchange rate brings about a less than one percent change in economic development.

Table A6.3c in Appendix VI, presents results that estimates equation (3.12), EDUI (proxy of economic development). From the results in the Table, the R^2 and Adjusted R^2 for the Central sub-region are 0.7496 and 0.7040 respectively; Eastern sub-region are 0.9450 and 0.9376 respectively; Northern sub-region are 0.9554 and 0.9468 respectively, Southern sub-region are 0.7036 and 0.6387 respectively and the Western sub-region are 0.8742 and 0.8568 respectively. These indicate that the independent variables explain respective variations in the dependent variables used to measure economic development. For the *t*-statistics, the results show that the variables are significant, as most of the values as contained in the Table A6.3c in Appendix VI, are greater than 2, thereby, showing level of significance. The

F-statistics has a value of 16.46(0.0000) for the Central sub-region; 128.76(0.0000) for the Eastern sub-region; 111.01(0.0000) for the Northern sub-region; 10.83(0.0000) for the Southern sub-region and 50.30(0.0000) for the Western sub-region. This shows that there is significance at 1 percent level in explaining the level of education proxy of economic development for each of the five regressions in Table A6.3c, as each regression show high level of significance.

FDI is significant in explaining economic development only in the Central sub-region, but it is not significant in explaining economic development in the other sub-regions. However, from the results, it is observed that the coefficients of FDI employed in measuring elasticities are less than one in absolute values in the Central sub-region, that is, a one percent change in FDI, brings about a less than one percent change in economic development. This implies that for the Central sub-region of Africa, where FDI impacts in explaining economic development, the magnitude of impact is minimal and almost negligible. Active labour force is significant in explaining economic development only in the Central and Eastern sub-regions, but not significant in explaining economic development in the other sub-regions. However, in the Central and Eastern sub-regions, the coefficients of labour employed in measuring elasticities are greater than one in absolute values, that is, a one percent change in labour brings about a greater than one percent change in economic development.

Gross fixed capital formation has a significant impact in explaining economic development in all sub-regions with the exception of the Western sub-region. This means that domestic investment impacts in explaining economic development though at a minimal magnitude in these sub-regions, but this is not so in the Western sub-region. However, the coefficients of capital

employed in measuring elasticities are less than one in absolute values in the Central, Eastern, Northern and Southern sub-regions, that is, a one percent change in capital brings about a less than one percent change in economic development. Trade openness is significant in explaining economic development, only in the Southern sub-region, but it is not significant in explaining economic development in the other sub-regions of Africa. However, the coefficients of trade openness employed in measuring elasticities are less than one in absolute values in the Southern sub-region, that is, a one percent change in trade openness brings about a less than one percent change in economic development.

The level of technology and government expenditure has a significant impact in explaining economic development in the Eastern, Northern and Western sub-regions, but it is not significant in explaining economic development in the other sub-regions. However, the coefficients of technology and government expenditure employed in measuring elasticities are less than one in absolute values in the Eastern, Northern and Western sub-regions, that is, a one percent change in technology brings about a less than one percent change, in economic development. The rate of return on investment has a significant impact in explaining economic development in the Central, Eastern and Southern sub-regions, but it is not significant in explaining economic development in the other sub-regions. It can also be deduced from the results that the coefficients of rate of the return on investment employed in measuring elasticities are less than one in absolute values in the Central, Eastern and Southern sub-regions, that is, a one percent change in the rate of return on investment brings about a less than one percent change in economic development. Money supply is significant in explaining economic development in the Eastern and Southern sub-regions, but it is not significant in explaining economic development in the other sub-regions. However, the

coefficients of money supply employed in measuring elasticities are less than one in absolute values in the Eastern and Southern sub-regions, that is, a one percent change in money supply brings about a less than one percent change in economic development.

The level of corruption has no significant impact in explaining economic development in all the sub-regions. Inflation, on the other hand, has no significant impact in explaining economic development in all sub-regions with the exception of the Western sub-region. It can also be deduced from the results that the coefficients of inflation employed in measuring elasticities are less than one in absolute values in the Western sub-region, that is, a one percent change in inflation brings about a less than one percent change in economic development.

Infrastructure has a significant impact in explaining economic development in the Northern and Southern sub-regions, but it is not significant in explaining economic development in the other sub-regions. In addition, the coefficients of infrastructure employed in measuring elasticities are less than one in absolute values in the Northern and Southern sub-regions, that is, a one percent change in infrastructure brings about a less than one percent change in economic development. Exchange rates have a significant impact in explaining economic development in the Eastern, Northern and Western sub-regions, but it is not significant in explaining economic development in the other sub-regions. However, the coefficients of exchange rate employed in measuring elasticities are less than one in absolute values in the Eastern, Northern and Western sub-regions, that is, a one percent change in exchange rate brings about a less than one percent change, in economic development.

4.8.2 Income Level Classification Test

R^2 and Adjusted R^2 for the low income countries are 0.9268 and 0.9199 respectively; the low middle income countries are 09816 and 0.9795 respectively; and the upper middle income countries are 0.9827 and 0.9762 respectively. These indicate that the independent variables explain respective variations in the dependent variables used to measure economic development. For the *t*-statistics, the results show that the variables are significant as most of the values as contained in the Table A6.4 in Appendix VI, are greater than 2, thereby showing level of significance. The *F*-statistics has a value of 133.54(0.0000) for the Low Income countries; 465.51(0.0000) for the Low Middle Income countries and 151.42(0.0000) for Upper Middle Income countries. This shows that there is significance at 1 percent level in explaining the income proxy of economic development, for the three regressions in Table A6.4 in Appendix VI, as each income level classification regression, shows high level of significance.

This test of sensitivity looks at countries, not in regional classification, but in income level classification. According to the World Bank classification of economies, we have four classifications of countries on the basis of income level. We have High income countries, Low income, Low-middle income and Upper-middle income countries. This has been highlighted in the selected countries, under the scope of the study and this is represented in Table A2.2, for income level classification, see Appendix II.

Table A6.4 in Appendix VI, presents the results that estimates equation (3.10), using GDP Per capita as a proxy of economic development and also,

utilizing pooled data for the individual income groups. High income countries could not be estimated because only one country was in the classification, this, therefore, made availability of needed data rather minimal. From the results in Table A6.4, FDI is not significant in explaining economic development in either low middle income or upper middle income countries, but significant in explaining economic development only in the low income countries. However, from the results, it is observed that the coefficients of FDI employed in measuring elasticities are less than one in absolute values in all the low income, that is, a one percent change in FDI brings about a less than one percent change in economic development.

Active labour force, trade openness, technology and money supply, respectively, are significant in explaining economic development in both low income and low middle income countries. However, from the results, it is observed that the coefficients of active labour force, trade openness, technology and money supply, employed in measuring elasticities are less than one in absolute values in all the low income and low middle income countries. This implies that a one percent change in active labour force, trade openness, technology and money supply for these countries, brings about a less than one percent change, in economic development.

For gross fixed capital formation, rate of return on investment, and exchange rates respectively, they are all significant in explaining economic development in all income classifications, as stated. However, from the results, it can be seen that the coefficients of gross fixed capital formation employed in measuring elasticities are greater than one in absolute values in the low income and upper middle income countries, that is, a one percent change in gross fixed capital formation brings about a greater than one percent change in economic development. However, in the low middle

income countries, the coefficients of gross fixed capital formation employed in measuring elasticities are less than one in absolute value, that is, a one percent change in gross fixed capital formation brings about a less than one percent change in economic development.

However, from the results, it can be seen that the coefficients of the rate of return on investment employed in measuring elasticities are greater than one in absolute values in the low income and upper middle income countries, that is, a one percent change in the rate of return on investment brings about a greater than one percent change in economic development. But in the low middle income countries, the coefficients of the rate of return on investment employed in measuring elasticities is less than one in absolute value, that is, a one percent change in the rate of return on investment, brings about a less than one percent change, in economic development.

Whereas from the results, it can be seen that the coefficients of exchange rates employed in measuring elasticities are less than one in absolute values in the low income and low middle income countries, that is, a one percent change in exchange rates brings about a lesser than one percent change in economic development. However, from the results, it can be seen that the coefficients of exchange rates employed in measuring elasticities are greater than one in absolute values in the upper middle income countries, that is, a one percent change in exchange rate brings about a greater than one percent change in economic development. The level of corruption, however, is not significant in explaining economic development in all income classification. The level of inflation is significant in explaining economic development in the low income and upper middle income countries respectively, but it is not significant in explaining economic development in the low middle income countries. Though, from the results, it can be seen that, the coefficients of

inflation employed in measuring elasticities are less than one in absolute values in the low income and upper middle income country classifications, that is, a one percent change in inflation, brings about a lesser than one percent change, in economic development.

Government expenditure is significant in explaining economic development only in the low income countries, but it is not significant in explaining economic development in other income classifications. However, from the results, it can be seen that, the coefficients of government expenditure employed in measuring elasticities are less than one in absolute values in the low income country classifications, that is, a one percent change in government expenditure brings about a lesser than one percent change in economic development. Also, the level of infrastructure is significant in explaining economic development in both the low middle income and upper middle income countries; whereas, it is not significant in explaining economic development in the low income countries. However, from the results, it can be seen that the coefficients of infrastructure employed in measuring elasticities are less than one in absolute values in the low middle income and upper middle income country classifications, that is, a one percent change in infrastructure brings about a lesser than one percent change in economic development.

4.8.3 Outliers Effect Test

As part of the sensitivity checks, the study further carried out estimations for the Western African sub-region (excluding Nigeria) and Southern African sub-region (excluding South Africa). The equation used for the estimations is equation (3.10), as specified in chapter three. The reason why this is done is because Nigeria and South Africa are regarded as two major outliers (countries) in Western Africa and Southern Africa respectively. The

exclusion of Nigeria is to reinforce the widely applauded claim that, Nigeria is the "Giant of Africa". Furthermore, the choice of excluding South Africa stems from the fact that, South Africa has been known to have a different growth pattern, compared to other countries in the sub-region. We were interested in finding out if the exclusion of these two countries from their respective sub-regions greatly affected the results gotten and to find out if these countries have any significant impact or 'carry any weight' in their respective sub-regions.

From the result in Table A6.5 in Appendix VI, it is deduced that the impact of FDI in explaining economic development at the exclusion of Nigeria is significant for the Western Africa sub-region. This implies from the result that the exclusion of Nigeria from the sub-region presents an outlier problem. This invariably means that Nigeria does not have a significant influence in the Western African sub-region emprircally; this is against the general notion within the African continent that Nigeria is the "Giant of Africa." Also, for active labour force, gross fixed capital formation, trade openness, money supply, rate of return on investment, corruption, government expenditure, infrastructure and exchange rate, there is significant impact in explaining economic development as a result of excluding Nigeria from the Western sub-region; whereas, there is no significant impact in explaining economic development at the removal of Nigeria from the sub-region for technology and inflation.

There is no significant impact in explaining economic development, for the Southern sub-region of Africa when South Africa was expunged. This implies from the result that the exclusion of South Africa from the sub-region presents no outlier problem. This invariably means that, South Africa has significant influence in the Southern African sub-region emprircally; this

makes the general notion within the African continent that South Africa has different growth pattern compared to other countries in the region true. For variables such as labour, gross fixed capital formation, technology, rate of return on investment, money supply and exchange rate, there is a significant impact in explaining economic development for the Southern sub-region excluding South Africa. Whereas, for other variables such as; trade openness, corruption, inflation, government expenditure, and infrastructure, there is no significant impact in explaining economic development in the Southern sub-region, excluding South Africa.

4.9 Hypotheses Testing

This section specifically deals with the testing of the hypotheses stated in chapter one of the study. The hypotheses stated were tested vis-à-vis the model estimation results to test for the significance of the estimated variables over the specified period of time, to inform whether the hypothesis were accepted or otherwise.

Hypothesis One as stated in the null form:

The net inflow of foreign direct investment has no significant impact on economic development of host African countries.

The estimated results of the models reveal that: Foreign Direct Investment is significant at 5 percent for all proxies of economic development as highlighted in equations (3.10), (3.11) and (3.12), this is emphasized in Table A6.1.

Furthermore, foreign direct investment is significant at 5 percent level in explaining economic development for the income proxy of economic development as estimated in equation (3.10), for countries with lower flows, this is affirmed by Table A6.3a.

Also, foreign direct investment is significant at 10 percent level in explaining economic development for the income proxy of development as estimated in equation (3.10) for countries with lower income per capita, this is asserted by Table A6.4.
We, therefore, reject the null hypothesis that foreign direct investment has no impact on economic development of African countries.

Hypothesis Two also as stated in the null form:
The apparently attractive rate of return on investment has no positive effect on inflow of foreign direct investment to host African countries.

The estimated results of econometric models reveal that: rate of return on investment is not significant on foreign direct investment as highlighted in equations (3.13), (3.14) and (3.15), this is emphasized in Table A6.6 and Tables A6.7 (a-e) in the Appendix.

We, therefore, accept the null hypothesis that the apparently attractive rate of return on investment has no positive effect on inflow of foreign direct investment to host African countries.

Hypothesis Three also as stated in the null form:
The net inflow of Foreign Direct Investment has no significant impact on closing investment and foreign exchange gaps of host African countries.

The Non-Parametric Test result of the Lowess Smoother reveals that as foreign direct investment increased over the years, the foreign exchange gap relatively increased. In the same vein, however, contrary to expectation, the level of domestic investment declined relatively as the level of foreign direct investment increased over the years to the host African countries. This can be

explained by the minimal impact of FDI in explaining the level of economic development in the region. This is highlighted in Graph A4.10 and A4.11 and also Tables A6.8 (a-e) in the Appendix.

We, therefore, accept the null hypothesis that foreign direct investment has no significant impact on closing investment and foreign exchange gaps of host African countries.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 Summary of Findings

This study has investigated foreign direct investment and economic development with evidences from selected African countries. The impact of the net inflow of foreign direct investment has been ascertained in relation to the several proxies of economic development. This chapter summarizes the findings of the research study and also proffers recommendations on way forward for the host African region.

This study investigated the declining proportion of inflows of foreign direct investment to African countries despite the apparently attractive rate of return on investment. It further investigated the impact that the net inflow of foreign direct investment has in relation to closing the foreign exchange and investment gaps. Also, the study ascertained the impact of net inflow of foreign direct investment in explaining the level of economic development of sub-regions with lower inflow of foreign capital and countries with the lower income per capita. The pooled data was utilized for the analysis and for the test of hypothesis. The method of analysis utilized was the fixed effect least square dummy variable model and the lowess smoother nonparametric analysis.

The results of the estimated models reveal that foreign direct investment has a significant impact in explaining the level of economic development of host African countries. The result affirms that the apparently attractive rate of return on investment has no positive effect in relation to the inflow of foreign

direct investment and also foreign direct investment has no impact in elation to closing the foreign exchange and investment gaps for the African countries. From estimation also, it is summed that net inflow of foreign direct investment has impact in explaining the level of economic development of both sub-regions that receive lower flow of foreign capital and countries with lower income per capita.

Considering the model estimations and results, the study has been able to concisely make some substantial findings which are highlighted below:

1. The research of Chenery and Strout (1966) validates the positive significant relationship of FDI net inflow and economic growth. They further affirm that as income increases as a result of flow of foreign capital, there is also a steady decline in dependence of external financing. Growth and ability to sustain further development by nations' resources also increase. This positive relationship is also corroborated by the research of Ojo and Alege (2010); Lumbila (2005); Fortanier (2007); Asiedu (2006); Ahmed and Suardi (2009); Sarode (2012), Prasad et al., (2007); Borensztein et al., (1998); Kose et al. (2009); and Baltabaev (2012). This study has found that a positive and significant relationship exists between foreign direct investment and economic development. The majority of previous studies focused on economic growth, but this study takes a step further to find the impact of foreign direct investment, not only on growth by estimating increase in income per capita, but other forms of measure of development, life expectancy and level of education proxy. We found foreign direct investment to be significant positively in relation to all proxies of economic development, however, at a minimal magnitude.
2. The study also found that the apparently attractive rate of return on investment has no positive effect in relation to inflow of foreign direct

investment for the host African countries. This is contrary to theory as stated by Asiedu (2002), that FDI should flow to countries that pay a higher rate of returns on capital. Also, lower income per capita translates to higher rate of return on capital for developing regions of the world like Africa which in turn leads to better prospects for FDI (Jaspersen et. al., 2000).

3. The study also found that foreign direct investment has no significant impact in relation to closing foreign exchange and investment gaps. This is contrary to the theory stated by Chenery and Strout (1966). The flow of foreign investment should increase domestic activities, which will invariably increase income, savings, and gradually close the investment and foreign exchange gaps. This will enable the host country to sustain further development from its own resources and reduce dependence on foreign capital as observed in literature, and obtainable in other developing regions of the world for instance in Asia. This study found that as foreign direct investment increased in the host economies, so did the gaps of foreign exchange and investment increase over the years. This can be clarified by the fact that the positive impact of FDI is minimal for the host African countries and the sector of inflow of FDI, which is usually the capital intensive resource exploitation for the host African region, more often than not displaces or crowd out domestic investment. Also, the gaps of foreign exchange increasing rather than closing is an indiction of the peculiar characteristics of developing economies like Africa that are usually consuming rather than producing nations, thereby, consistently worsening balance of payments position.
4. From the results and analysis, the study deduced that foreign direct investment has significant impact in relation to economic development for sub-regions of Africa with lower flows of fund. This is similar to the findings of Prasad et al., (2007), those countries with lesser flows of FDI probably had lower dependence on foreign capital flows and this could have resulted into their experiencing greater and faster growth. The sub-regions that received

lesser flow of foreign direct investment, specifically the Central and Eastern sub-regions, were probably encouraged to maximally engage their domestic investment so as to reduce possible incidences of displacement of domestic competitors. The likely condition of these sub-regions with lesser net inflow was possibly the sufficient room for increased economic activities to thrive, this could thereby bring about desired economic development if income growth is sustainably preserved and also supported by improved skill development and better living standards.

5. Finally, the study found out that net inflow of foreign direct investment has positive significant impact in relation to economic development for the countries with lower income per capita. This is also corroborated by the researches of Asiedu (2002) and Jaspersen et al., (2000), which state that as foreign investment flows to countries with low income per capita, this will result into increase in income, thereby, increasing domestic savings and investment to bring about significant positive impact on economic growth. This study, thereby, found that net inflow of foreign direct investment was significant for countries in the low income country classifications, but not significant for lower middle, upper middle and high income classification of host African countries.

5.2 Recommendations

Given the above circumstances and estimated results, the following recommendations are suggested:

5.2.1 Investment

1. The flow of foreign direct investment into the economy should, *cet. Par*. increase domestic investment and economic activities to the advantage and not to the detriment of host economies. Government of countries that welcome the flow of foreign direct investment should

do so with a clear sector analysis. The sector that FDI flow into should be such sectors like the agricultural and manufacturing industry to aid impactful increase in income; a sector of the economy that will encourage domestic participation, thereby, increase productivity and linkages of local firms in the domestic sector through diffusion process which encourage healthy competition and efficiency of domestic investment. The main objective of domestic investment to enhance economic activities increase, income increase which also will increase savings and ultimately investment domestically is achieved to bring about higher income per capita for citizens of the nations.

2. Dependence on foreign direct investment without investment impacting on the real sector may not allow the host economies to improve on domestic investment; this, however, has a direct impact on national income generation. The policies that will encourage increase in domestic investment participation and eliminate the crowding out of domestic investor should be put in place by the government of host countries in sectors of foreign investment capital inflow to encourage countries to be less dependent on foreign direct investment. This will increase economic activities, domestic investment, and also national output. This will also translate into better income per capita for citizens, better living standards, life expectancy, level of education and consequently, development.
3. It also can be noted generally that domestic investors are likely competing with foreign ones, the possibility of foreign investors to be at better position than domestic investors is apparent. The governments of the individual nations should make concerted effort to put domestic investors at a vantage position in order to realize the aim of welcoming FDI, which is to enhance increase in economic activities and domestic investment. The policies that favour domestic

investment should be put in place as this will check the limit of foreign investors and therefore make the possibility of foreign direct investment aim to be collectively achieved. Also, as domestic investment is encouraged, income increase should be encouraged to be retained in the economy; this would prevent leaving the host country with little or no benefit whatsoever.

5.2.2 Close Gaps

1. For the investment gap to be closed as desired, as income level increase, savings should be encouraged to increase commensurately. As the income level is progressively increasing, so also should long-term savings begin to boom even from the grassroot. For the existing gaps of investment to be gradually eliminated, there is need to channel savings into investment domestically. This also must increase domestic economic activities that wll directly impact on national product. Therefore, policies that would encourage savings should be introduced to achieve tangible change in savings and investment increase alike.
2. The closing of income gap alone is not sufficient for developing countries to attain development. The foreign exchange gap needs to be closed; for these gaps to be closed, there is need for government to encourage export and discourage import to enable the countries to have better position in the nations' balance of payments. The reduction of import and increase of export also is an indication of gainfully utilized domestic investment and increase of economic activities, which enables us to increase output and reduce consumption of imported goods. The government should also, through policies of appreciation or depreciation of host economies

exchange rates, reduce discrepancies in foreign exchange rates, as this will go a long way to reduce gradually the foreign exchange gaps.

3. Gaps of skill and technology should close-up as foreign direct investment flows in. As foreign direct investment flows in, it should bring along with it increased skills and technology. The governments of host countries should ensure that as FDI flows in, it should also brings with it skills and technology for the development of the real sector. They should also spend more on research and development and invest more, as these trigger and sustain growth and development. Policies, therefore, should be put in place by government that will encourage employment of local citizens in multinational companies to facilitate acquisition of required skills and technology to be invested in the domestic sector for improved output. Also, the relative investment in research and development, which will assist domestic acquisition of required skills and technology, should be exploed to facilitate the closure of gaps of technology and skill. Economic development must be attained in host countries, not only by the flow of physical capital by FDI inflow, but also through the inflow of skills and technological transfer for the development of real sector of host economies. However, the acquisition of skills and technology needs to be achieved and sustained.

5.2.3 Sustainability

1. The income level attained by each nation desiring development must be sustained to make development a reality. Capital approach to sustainable livelihood theory states that the capital assets stock of nations must be non-depleting to ensure that the present and upcoming ones preserve the attained level of income growth. Government of African nations should ensure that strategies are put

in place to ensure that income growth attained by maximally employing domestic sector of host nations must be preserved against decline. Since the direct contribution to the synergy enhances improved productivity, boost economic activities and permanently increase income growth, with adaptive strategies, they are preserved and protected from decline. The conservation of income growth by ensuring non-diminishing capital stock will preserve income level which in perpetuity will generate economic development.

2. Perpetual sustenance of income growth changes living standard of citizens of host economies. This also positively impacts on the life expectancy of the people. The same way the capital asset stock is preserved, so also the natural environment should be preserved. The government of host African nations should ensure that environment is preserved by ensuring reduction in pollution, provision of cheaper and affordable healthcare, provision of needed social amenities that affords higher life standards, better socio-economic environment. Also, strong efforts should be made to reduce corruption, and even better policies to reduce inflation as these will make the quality of life much better for the citizens and therefore, improve the expectancy of life. These when preserved, will yield the expected development of host nations.
3. Skills and technology in improved form is continually required for nations to be positioned for gainfully employing all resources at their disposal. The level of school enrolment for African nations still remains low compared to other developing regions of the world, despite the relative increases over the years. This explains the presence of skills and technology gaps experienced in the host African countries. The government of host nations should, therefore, intensify efforts to consciously improve on level of school

enrolment, educations, skill acquisition, improved technology attainment and preservation of all these will ensure that they are not only preserved, but also enhanced. As the desired improvement in education is attained, so is the skill and technology gaps also gradually closed to ensure the desired level of economic development.

5.3 Conclusion

We can conclude, from the results of this study, that the apparently high rate of return on investment for the African region has no positive significant effect in relation to the flow of foreign direct investment. Nevertheless, a positive significant relationship exists between net inflow of foreign direct investment and economic development, though at a minimal magnitude. However, for the African region, the flow of foreign direct investment has not succeeded in closing the gaps of investment and foreign exchange; rather, as foreign direct investment increased relatively over the years, the gaps remained wider. As net inflow of foreign direct investment increases, the resultant increase in income invariably does not impact significantly in relation to the domestic sector, with expected resultant increase in investment, neither did it result in the decline of the gaps in foreign exchange. Nonetheless, the flow of foreign direct investment should bring about economic development and accelerate domestic investment, resulting into a steady decline in dependence of external financing. Growth in income, expectancy of life and education put together results into better standard of living and ability to sustain further development by nations' resources also increase. The sustainability of investment domestically, alongside with sustainable socio-economic environment, will bring desired economic development to host African countries.

Countries that depend less on foreign direct investment could have greater growth advantage than countries that do not, because domestic investment, which is the bedrock of economic growth and development, may be maximally exploited. For the African region, a decline was observed in domestic investment relative to inflow of foreign investment, thereby, invariably indicating that direction of foreign investment flow is probably not towards the real sector. Investment in the real sector will result into development domestically because it is the main kind of development that yields increase in national income and consequently income per capita. This, when coupled with increase in expectancy of life, education and stable socio-economic environment, affords countries' desired economic development.

For countries with low income per capita, the significant impact of foreign direct investment in relation to economic development was anticipated. As foreign investment flows to countries with low income per capita, this could result into increase in income, which may consequently lead to increasing domestic savings and investment to bring about significant positive impact in relation to economic growth. The study also affirms that inflow as shown in the results have had significant impact in relation to economic development for countries with low income per capita, while for countries with high or middle income there was no significant impact. This could be as a result of the fact that countries with high and middle income are not particularly dependent on FDI for the income benefit, pehaps because of skills and technological transfer for the development of their real sector.

Therefore, foreign direct investment should result in economic development for host African countries, gradually resulting in increase in income, life expectancy, and education enhancement, which also increase skilled human

capital and technological improvements. These increases in income should close limited production factors gaps but this is only possible with the presence of transparency, sustainable and favourable socio-economic environment. This could then result into development of domestic investment, which could further increase income to enhance better living standards for the host African economies. Lesser dependence on foreign capital could enhance further development of domestic investment; the probable condition as income level increases, is the decline of savings and foreign exchange gaps, thereby fulfilling the main aim of utilizing foreign direct investment.

5.4 Contributions to knowledge

The flow of foreign direct investment to developing economies has increased tremendously over the years, though declining for the African region. It is expected that as net FDI flows in, it accelerates domestic investment, increase productive activities, economic efficiency, thereby increasing the growth rates, and as a result income per capita, wellbeing and standard of living of the recipient host country as they are consciously sustained.

1. Several studies have established the impact of foreign capital flows and other macroeconomic variables on host developing countries and how it promotes growth of economic activities, not only through efficiency spillovers but by stimulating domestic investment. However, there has been scarce research in the area of the impact of FDI on economic development for the African region. This study, therefore, contributes to knowledge by drawing from analysis, the impact of FDI net inflow on development of the selected African countries in all five sub-regions of Africa. It also establishes the positive effect of the flow of capital on economic development for the African region looking closely at all the sub-regions and also the

income level classifications, as has not been clearly highlighted in previous study.

2. The apparently high rate of return on investment for the African region has not had significant positive effect on net inflow of FDI compared to other developing regions of the world. The study contributes to knowledge by establishing the negative relationship existing between rate of return on investment and the flow of foreign direct investment in the African region.
3. The impact of FDI net inflow on production factors gaps in the African context has not been examined in previous research studies in the area of capital flows. The study, therefore, contributes to scientific knowledge by determining that for the African region, the gaps of foreign exchange and investment has widened rather than close as it obtains in other developing economies of the world.
4. This study also highlighted that the net inflow of foreign direct investment has positive significant impact on sub-regions of Africa with lower flows of fund. Sub-regions with lesser net inflow of FDI specifically Central and Eastern sub-regions, experienced greater and faster growth probably resulting from lesser dependence of the net inflow of FDI. This signifies that countries that received lesser flow of foreign direct investment were possibly persuaded to maximally engage their domestic investment to thrive maximally, thereby yielding high returns on domestic investment, to aid in closing the investment gap and hereby resulting into economic development.
5. The study advances scientific knowledge by contributing from empirical results that for countries with lower income per capita, foreign direct investment has positive significant impact on their level of economic development. As foreign investment flows to countries with low income per capita, this could result into increase in income

thereby increasing domestic savings and investment to bring about significant positive impact on economic growth. Only in low income country classifications is this impact of foreign investment significant on economic development.

5.5 Areas for Further Studies

Following the areas this study has covered, the areas listed below are recommended for further studies by interested researchers of foreign direct investment and economic development in developing regions of the world:

1. The impact of rate of return on investment on the flow of foreign direct investment in Sub-Saharan African countries.
2. The effect of exchange rate volatility on the flow of foreign direct investment and economic growth.
3. The role of institutions in the attraction of foreign flow of funds and impact on the economic growth.
4. The impact of political and socio-economic environment on the flow of foreign direct investment in Africa.
5. Foreign direct investment in an open economy model; challenges of developing countries.

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APPENDICES

APPENDIX I: Summary of Review of Empirical Literature

Table A1. 1

Summary of Review of Empirical Literature							
s/no	**Author**	**Objective**	**Theory**	**Data Set**	**Methodology**	**Result**	**Critique**
1	Chenery and Strout (1966)	To highlight a hypothetical outline devised to evaluate the procedure of development with foreign aid in measurable manner and to analyze the present effectiveness of the least developed economies and ascertain their potential requirements for aid given certain suppositions.	Harrod-Domar Model and Neoclassical model Cobb-Douglas Model	Panel Data	Statistical analysis, Linear programming, Inter-country regression, Comparative Analysis	A tangible rise in investment funded substantially by external finance has resulted into swift growth of national output trailed by a gradual fall in the reliance on foreign capital. Growth was not only stimulated by external aid, but also the skill of every country to keep up more development from their domestic capital was reatively enhanced. The comparative study recommends some global level of effectiveness which may enhance the organisation of external aid.	The number of years and countries under can be increased for broader analysis; also method of analysis can be upgraded to obtain a more precise result, and therefore better application of policies.
2	Baxter and Crucini (1995)	Restricting access to international risk sharing in ways that seem empirically more reasonable than assumption of complete market	A two-country equilibrium model with restricted asset trade	Panel Data	Unit roots; Cointegration; Standard VAR; Panel Correlation	Shocks to productivity are highly persistent, and transmission of shocks from one country to another. The innovations to productivity are positively correlated across countries. With the random walk specification, both asset structures predict a negative correlation between the net export ratio and output, which is characteristic of most OECD countries.	There is a limitation in the two country equilibrium model regarding business cycles and financial integration. A wider range model putting into consideration globalization which implies that no limit is visible in the face of a no barrier world.
3	Mendoza E.G.; Quadrini V.; Rı´os-Rull J. (2009)	To ascertain the cause of persistent global imbalance resulting from financial integration.	Quantitative dynamic general equilibrium models	Panel Data	Calibration Methods; symmetric transition probability matrix; Correlation; Sensitivity Analysis	The average situation in conditional state rises with remaining value: it has a harmful effect for low income economies and helpful impact for high income economies.	Method of analysis is not clearly seen or outlined in the work. A better method of analysis can be used to obtain more accurate result. There also is a limitation in the two country equilibrium model regarding business cycles and financial integration. A wider range model needs to be adopted.
4	Kose M.A.; Prasad E.S.; Rogoff K.; Shang-Jin W. (2009)	Due to the inadequacies of the previous approaches used, their focuses on only direct effect of financial globalization, coupled with scanty empirical support about the link between growth and financial	One-sector standard neoclassical growth theory	Panel Data	Panel Cross sectional Regression	There is no regular association between economic growth and openness financially. There's an insignificant positive relationship with average growth of national output and variation in openness financially. There also is a positive effect of financial integration on growth economically. Financial openness has positive association with measure of development financially and institutional	There is no empirical evidence to the fact that openness financially could enhance development of host economy financial sector, with regulation of macro-economic strategies as stated in the study, rather the impact of developed

		openness.				quality and negative relationship with inflation log and government deficit essentially zero. There is a positive relationship within level of financial integration and growth of production. However no total experiential association exists within financial openness and instability of output. The relationship within growth and current account utilizing data standardized for extended tenure for every nation is positive.	financial sector as an indirect factor benefit to enhance growth. Method of analysis could be more advanced to measure the variables more effectively and therefore obtain more accurate results.
5	Asiedu E. (2002)	This study aimed at ascertaining if impact on foreign capital in least developed economies, impact on economies in SSA in a different way.	Trade Liberalization. Edward & Jaspersen (2000) Hausmann & Fernandez Arias (2000).	Cross sectional Data.	Cross sectional regression and sub-period panel regression.	A greater ROI and enhanced infrastructural network has positive effect on foreign capital flows to SSA countries but insignificant effect on foreign flows to SSA. Openness to trade enhances foreign inflow of capital to SSA, thereby implying that Africa is different. Different strategies that have been thriving in other economies may not likewise do well in Africa.	The theory base of the empirical study was not clearly stated. The number of years and countries under observation can also be increased for better outcome of results.
6	Asiedu E. and Lien D. (2011)	The study specifically aimed at discovering the impact that democracy has on FDI, and if natural reserves of domestic economies vary the association.	Dynamic linear panel data theory..	Panel data.	GMM estimator; Regression analysis.	Democracy promotes foreign inflow of capital merely if the level of minerals and oil allocation to the entire export is not as much as the critical value. The impact of democracy on foreign inflow of capital is a function of the volume and not kind of natural resources.	The number of years and countries under observation are sufficient, but method of analysis can be upgraded to obtain a more precise result, and therefore better application of policies.
7	Shah Z. and Ahmed Q.M. (2003)	To determine the cost of capital factor, trade policy and the condition of infrastructure by the civic subdivision on flow of FDI.	Monopolistic Competition Theory; Cobb-Douglas production function.	Time series data	Regression analysis; Co-integration.	For the regression results; the cost of capital co-efficient, actual costs on infrastructure by the civic subdivision, market size, political dummy and tariff are significant and the co-integration test; every factor was considerably impactful even at 1 percent and corroborating their existence in the model. (CRGDP has a significance of 5 percent). For ECM; PCGNP, TARIFF and DM all had significance whereas some factors showed their significance in the short run. The value of the cost of capital (CCFA) is not significant in the ECM but contributed in establishing flows of foreign capital.	The methods of analysis are sufficient but the number of years should be increased for a more robust conclusion.
8	Shamsuddin A.F. (1994)	To examine the economic determinants of private foreign investment	Single equation econometric model Five stages theory (Dunning) 1973	Cross section data	OLS regression technique	The magnitude of the market of domestic economy as captured by GDP per capita was the most important factor for attracting FDI, so also cost factor and investment climate of host countries. Per capita foreign aid inflow and economic volatility affected inflow of foreign capital. Large volume of the market however, raised the inflow of public foreign aid and attracted foreign capital.	The period for examination is too limited; therefore need to increase number of years. Also method of analysis could be upgraded for a more robust conclusion.
9	Ojo, J. A. T., and Alege, Phillip O. (2010)	The research work is aimed at examining the strategy propositions of the present global financial crisis and the impact on foreign capital flows,	International Trade, New Growth and Financial Theories. It specifies an	Panel Data	panel Vector Autoregression	The value of national product is considerably tangible, indicating that with rising economic activity in Africa, the inflow of foreign capital would rise. The degree of the value indicates that variation in foreign capital are elastic regarding the variation in national product. The value of the level of	The countries under review could be increased save availability of data and also putting observation to more number of years to obtain an even more convincing result.

		development financially and economically in the region.	expanded Solow-type model leaning on the endogenous growth theory.			openness (OPN) is also significant at the level of 1%. Particularly, the elasticity of OPN is about unitary. Nonetheless, the value of the interest rate and exchange rate are insignificant still at 10%.	
10	Ayadi O.F.; Ajibolade S.; Williams J.; Hyman L. (2010)	The research study unlike previous research work aimed at examining the long-term relationship between corruption and FDI flows in SSA countries.	The Fernandez Arias and Montiel framework.	Panel data.	Panel unit roots and panel co-integration.	It was discovered in the research study that; level of transparency and size of FDI flows, have long run equilibrium relationship. The two variables hereby move together without drifting apart. Therefore, for SSA countries to attract FDI, it is expedient to transform their political and economic environment.	The result can be improved upon, by extending the number of years and countries observed.
11	Dos Reis L. (2005)	The extent of instability of FDI depends on the instability of net FDI flows as a percentage of national product. It also captures instability in FDI and exports collectively as a share of national product to measure economies' full susceptibilities to BOP problems emanating not principally from distress in capital account.	The procyclical behavior of both groups of high and middle income countries	Panel Data	Standard Deviation and Correlation Coefficients	If FDI flows effect is calculated as a proportion of national product, the instability encountered by least developed economies is rather high. Between country groups, instability captured as a percentage of national product, is greater for unindustrialized economies than for industrialized ones. Amid the least developed nations, African economies seem to be the most susceptible set, trailed by the Middle East, Asian countries and the Western Hemisphere,	The method of analysis used is not sophisticated enough to capture macroeconomic volatility as desired to be measured in the study, as stated in the study also that methodology used will underestimate its macroeconomic impact.
12	Arestis P., Nissanke M., Stein H. (2005)	Drawing a substitute hypothetical viewpoint, by investigating the demands of institutions, creating and changing structures for development economically.	Financial Integration	N/A	Qualitative Analysis.	Financial freedom theory is puny both hypothetically and experientially. A dear need is hereby required. For the institutionalization of a new financial structure, there must be justifiable units regarding the fact that they are positioned in the structures of economic and social invention. Finally for banking customs to be impactful, they need to be understood by the entire population, this is only feasible if the configuration is broad, inclusive and reachable.	The research work is purely qualitative with no quantitative input, this does not back up the conclusion with its own empirical findings and not just those of others. The contribution to knowledge would have been therefore more precise by putting to test its assertions which have been based on selected theories.
13	Kose M.A., Prasad E.S., and Terrones M.E. (2003)	Several recent papers have not concluded that financial integration does engender the gains of growth; this correlation is not normally initiated to be sturdy or vigorous. Furthermore, the obtainable experiential proof on the effect of financial integration on macroeconomic instability is highly restricted.	Economic Theory.	Panel Data	Regression analysis of volatility dynamics and IV estimate	Financial openness, as quantified by gross FDI inflows as a proportion to national product, is related with a rise in the proportion of consumption instability to income instability, converse to the concepts of enhanced global risk-allocation prospects through financial integration. Nonetheless, this association is not linear. If the degree of gross FDI level, seems to have a negative impact on this proportion.	The scope of empirical work is limited. There is also need to supply a group of strong analyzed details to direct the model, by developing a theoretical framework for understanding the linkages within openness and the dynamics of volatility. Emphasis was also not placed on the marginal impact in the associations within openness and instability in order to comprehend the effect of openness on the vibrancy of other main macroeconomic collections.

14	Servén L. (2006)	To comprehend the enhanced factors creating the global financial integration of least developed economies, to bring out lessons for these economies to extort total development prospects of global capital inflows.	Portfolio Theory with response of capital flows to risk, return and portfolio diversification model.	Panel Data	Regression Analysis	Net international assets (as a proportion to total wealth) are negatively associated to the computation of host economies ROI and the percentage of external to home economy wealth, and positively to the values of uncertainty of investment. Foreign capital inflows reacts positively to predicted earnings and negatively to observed instability in the target economy. They also retort negatively to greater earnings on substitute international assets. All values are greatly tangibly significant and the regression slope is sturdy, especially in the least developed economies.	Since the study is aimed at better understand the forces shaping international financial integration, a deeper and an all encompassing econometric method of analysis than just regression should have been used to further measure more accurately shaping forces of international financial integration. The scope could also be increased in terms of number of years under observation and also the number of countries will give a more robust analysis of the result.
15	Gourinchas P.O. and Jeanne O. (2008)	To access the contribution of capital flows in equalizing returns. They also established that ROI are not sound forecasters of FDI inflow.	Open Economy Version of the Neoclassical Growth Model (calibrated open economy growth model).	Panel Data	Cobb Douglas Linear Specification	The expected FDI inflows are negatively related with the growth of productivity, while FDI outflows are positively related with the productivity growth rate crosswise the economies. There also exist a sturdy negative relationship within productivity and the savings block.	The dynamic equilibrium model was not well developed in the course of the work to ascertain the fact that the outline of FDI flows examined in the current times, wherein the least developed economies that advanced the quicker also had the greatest excesses in trade.
16	Prasad E., Rajan R., and Subramanian A. (2007)	The study investigates the extent to which FDI is distributed globally and if FDI actually enhances growth in least developed economies as has not been carried out by previous study.	Standard Economic Theory	Panel Data	Regression Analysis	Current accounts of non industrialized countries are positively correlated with long run growth. Thus countries that grew more quickly have been less reliant on foreign finance. Also a negative correlation for industrial countries. In the face of current global integration, with rising capital flows and a virtually tranquil period in international financial markets, the relationship within current account balances and growth continues to be positive for economies that are not industrialized (the association is zero in the other instances). The negative association forcasted by economic theory was never established in any case.	The variable used to measure Capital flow that is current account balance is ambiguous as other components may be inclusive. Data collected and subdivided on the basis of average growth rates could have been done into more subdivisions to ensure better and clearer picture. There also is no strong evidence of casual relationship on the quality of growth related to declining dependence on FDI by developing economies.
17	Obstfeld M. (2008)	To review differently from previous research work, the probable gains and prices to least developed economies for welcoming financial globalization	The model of Improved Risk Sharing: strong risk returns trade off.	N/A	Qualitative Analysis	A positive association exists amid level of economic growth and financial development. A minute methodical proof that openness financially increases wellbeing circuitously by advancing security transformations of economic establishments or strategies. Similarly, no express association exists amid FDI inflow and macroeconomic stability.	The research work is more qualitative than quantitative input, this does not back up the conclusion with its own empirical findings and not just those of others. The contribution to knowledge would have been therefore more precise by putting to test its assertions which has been based on selected theories

18	Reinhart C.M. and Rogoff K.S. (2004)	Study briefly examined the record and prevalence of successive evasion, by reviewing a number of of the rationalizations provided in the writing on the "paradox" of reason for finance not streaming from developed to least developed economies and by so doing connect this issue to sovereign's economies' series of acknowledgment.	Lucas New Growth Theory (Seminal Reputation and Obligation) with theory of Jonathan Eaton and Mark Gersoritz (1981)	Panel Data	Cross Section Regression Analysis, Standard Logistic Distribution.	The correlation between private external debt per capita and per capita income, corroborates the hypothesis that per capita income increases when the quality of institutions improves, implying better conditions for borrowing from abroad. There exists a remarkable correlation with poorest countries offering default one-third to one-half the time despite having borrowed very little. This invariably makes flow small to developing countries because they do not repay.	The number of years seems to be scanty compared to previous work on the subject. The number of years should therefore be increased and also the number of countries for observation. Also an all encompassing method of analysis can also be used for more robustness of results in the analysis.
19	Alfaro L.; Ozcan S.K.; and Volosovy ch V. (2008)	The study examine the different theoretical explanations for the Lucas Paradox in a systematic empirical study and looks at the role that institutional quality play for capital flows as has not been done by previous studies.	Lucas Paradox; Standard Neoclassica l Theory.	Panel Data	Cross-sectional regressions – sub-periods. Monte Carlo simulations; Perturbation exercise	Nevertheless, the indicator of institutions has significance at 1% degree, whereas the per capita GDP logarithm is not. The effect of institutions on FDI flows in the main" variable is very related to the entire world" variable. The years of schooling average logarithm, has no significance, distantness logarithm, also has no significance. The task of restraints to free movement of capital, is negative and has significance at 1% degree. Nonetheless, per capita GDP logarithm too stays positive and tangible and hence restraints to free movement of capital could not explain for the Paradox." In the multiple regressions, per capita GDP logarithm was not significant. Restraints to free movement of capital are also an essential factor though it could not explain for the Paradox." The institutional quality factor is vigorous to addition of the other descriptive factors and has significance at the 1% degree. The results has prior significance economically.	There is evident presence of multicollinearity in the variables used. There is therefore possible need to make possible adjustment on the selected variables. No explanation and possible recommendations were also proffered on getting good institution which is the main variable of the research work as it's the main significant variable, there is need to be loud and not silent of possible ways of moving forward and attaining good institutions.
20	Lumbila K.N. (2005)	This research work examined the effect of capital inflow on growth economically regarding existing fragile empirical evidence, and also identified the variables that boosted the impact of capital inflow.	Borensztein Theory	Panel Data	cross country regression analysis on panel data	Capital inflow exercises a positive effect on growth in Africa. In addition, variables like educated human capital and striking investment environment stalking from advanced infrastructure, lesser country risk and constant macro climate in the home economies, improve the effect of capital inflow on growth. Surprisingly, the regression end results reveal that corruption is not significant on capital inflow: even in economies where corruption is observed to be elevated the gains of positive effect of capital inflow on growth is still evident.	Systematic difference in coefficients was evident in the research work, therefore leaving the choice between Fixed Effect and Random Effect undetermined. The Hausman test executed in the statistics utilized in the study was also not able to discover the systemic variation. There was also the presence of both heteroskedasticity and autocorrelation in the data analyzed.
21	Asiedu E. (2006)	The study aimed at discovering the effect of natural endowment, size of market, infrastructure, human resource, venture strategies of home	Growth Theories	Panel data	Fixed effect panel estimation.	It was observed from results that huge domestic markets, natural endowment, high-quality physical investment , minimal price increases, effective legal structure, high quality infrastructural outline promotes foreign capital flow. Whereas, corruption, political volatility	The theory base of the empirical study was not clearly stated. The number of years and countries under observation can also be increased for better outcome of results

		countries', legal structure consistency and political constancy on flow of foreign capital.				have inverse relationship. Increase in FDI does not invariably mean economic growth rather, policies that promote FDI have direct impact and long-term effect of economic growth.	
22	Ahmed A. and Suardi S. (2009)	To institute the process through which advancement financially and establishments enhance minimal macroeconomic instability	Fatas and Mihov (2003) and the logarithm divergence of the sequence.	Panel Data	Panel regression analysis.	A direct association subsists among directness trade and increase of productivity instability in sub Saharan African economies. Openness financially and increase of productivity instability are inversely related. The limitation of investment has a tangibly impactful and has direct impact on volatility. Liberalising of trade on its own adds to more instability in increase of earnings.	Considering the effect desired to be measured in the study, its expedient that the number of years observed should be increased and also number of countries under observation should also be increased for better result. For accurate impact also, a more encompassing econometric method of analysis should also be employed for more precise results.
23	Hussain M.N., Mlambo K. and Oshikoya T. (1999)	The work was specifically on five Asian countries and the effect that this crisis had globally with the African lesson.	Long Term Developme nt Model	Time Series Data	Qualitative and Quantitative majorly comparative analysis.	The predicament had an inverse effect on worth of export and the magnitude of trade. It evaluated a fall in the magnitude of world trade. The fall in the magnitude of trade in major products is evident and this along with the inverse effect on the worth of major products, shows that the predicament had amounted into further decline in the worth of major products globally. Therefore, the predicament had a overall inverse effect on Africa.	The method of analysis was mainly qualitative and quantitative. This made it complex to deduce from the results the effect of the global economic crisis on the African countries. A better model could have been used, with a better method of analysis specifically econometric in nature to be able to bring out the effect measurement clearly and accurately.
24	Eozenou P. (2008)	To ascertain if host nations economic situations counts in the association among global economic integration and instability.	Arellano and Bover (1995) and Blundell and Bond (1998) Model	Panel Data	Econometric methods; GMM-IV panel estimator method; Regression/OLS	The fall in increase of product instability during the selected time is enhanced by the development of openness of trade, general price rises, reliance on major produce and trade conditions, instead of the economic factors. Economic factors heve no considerable effect on instability when considering incresse in productivity notwithstanding the consideration of interaction term. Results thereby suggests that a positive relationship exists between financial integration and increase in productivity even though values are not considerably tangible.	The standard errors are rather high, departing from the expected level. This simply clarifies the multicollinearity consequences establishd by the interaction term that increases the deviation of the approximated values persuading the accuracy of the variables.

25	Aysan A., Pang G. And Varoudakis M.V. (2005)	To add to the depth of research by adding the volume of MENA nations researched (a total of five amid the forty developing economies), and determining impact of private investment on roles of economic reforms	Neoclassical accelerator model	Panel Data	panel data econometric techniques	In the evaluations, most if not all descriptive factors shows a tangible effect on private investment, except for infrastructure and steadiness of macroeconomic factors. The enhancing factor shows the antcicpated sign that is positive, this mean that expectations of economic growth provokes greater investment. Also, an inverse impact is exercised by interest rate on investment, this however, patterns with the capital theory user cost concept. The result also reveals an inverse effect of instability of macroeconomic factors on assessments of private investment.	Normal bank discount rate was used instead of Ideal Interest Rate; this could affect the result analysis unfavorably. The number of years under observation could also be increased to arrive at a more valuable and relevant conclusion.
26	Ploeg F.V. and Poelhekke S. (2007)	To present an important position to the value of the financial markets and identifying how the instability of prices of commodities and natural resource income from sales to other countries could result into growth decline.	The Law of One Price Model.	Panel Data	Panel-ARCH Estimates, Regression Analysis	The values of physical investment and preliminary investment in human development is positive. This implies that greater investment in human capital and physical results into greater increases in the velocity of per capita income, though the value is not considerably tangible for human capital. A tangible inverse relationship on preliminary per capita income shows that less developed nations that begins with minimal per capita income come up and develop quicker, all things being equal (i.e., conditional convergence). A tangible positive impact of natural endownment on economic growth is not evident. Neither a tangible impact of trade openness on economic growth. However, an inverse relationship exists between financial development and economic growth. Rather pressing is the instability of unforeseen rise that exercises a stong and inverse impact on increase in per capita GDP.	It is complex to reduce the price instability of capital on their own in reality; it ought to be practicable to handle instability more effectivly. The work had no clear ways of overcoming opinionated persuasions of capital resources in the short-run to generate the political and economic institutions required to minimize instability. There was also no clear mode to alleviate the effect of instability on growth and put a stop to impoverishment.
27	Guillaumont P. and C. Korachais C. (2006)	It examines the impact of volatility on impoverishment that are not stimulated by low growth. It sums up the progression of impoverishment from data that is statistically accessible, thereby initiating volatility of income in a suitable model.	Standard model of change in poverty a parsimonious model	Panel Data	Regression Analysis	The value of association amid volatility of income and the Gini modification is not considerably tangible. They considered intangible the value ascertained for the proliferative factor. To sum up the stated evaluations, it indicates that volatility of income could have, apart from rise in income and Gini coefficient modification, a further effect on transformation on impoverishment.	The assumption of larger instability of Sub Saharan African countries demands the steadiness of the model amid African nations generally. Also, to depict the further lasting impact, a panel data model elucidating the impoverishment intensity can be utilized with the earlier volatility encountered over a protracted period of time as explanatory factor of poverty for all levels of examination.
28	Ayogu M. and Dezhbakhsh H. (2005)	It examines total instability, especially output shocks, investment and expenditure, and tackles the total instability in least developed nations which is substantially	The Complete Market Model	Time Series Data	Regression Analysis. (Augmented Dickey Fuller Test Unit Roots Test)	Considering all the given models, the estimation value for South Africa's Gross Domestic Product is positively related and tangible, and the estimation values for global expenditure is not tangible (in an instance inverse), instead of being positively associated and tangible. The estimated values validate the outcome of the relationship that the	The framework of instability that subsists in some instances for certain specific research in this study was not examined due to the collapse of the financial markets, following from the investigation criticism into aggregate volatility which

		higher than in developed countries.				economy does not sufficiently picture the complete-market model. Thereby resulting in the refutation of the South African complete-market model.	supposedly never hinders instability of financial institutions. This is not sufficient indication for the instability core not to be observed, it can still be observed to ensure all necessary precaution has been taken.
29	Cakici S.M. (2009)	Examining a active, broad equilibrium structure, stochastic, with sequential resistances and borrowing from international sources regarding growth of money shocks of development for an open economy that is small and to examine the effects of changing levels of integration financially to know the effect on the economy.	cash in advance Model (CIA), Dynamic, stochastic, general equilibrium Model.	Time Series Data	Regression analysis (linearization and simulation	The reactions of the factors to a single-period, short-term technology shock that is positive in the first period shows that the home nations deposit, domestic investment, output, supply of labour, loans, and aggregate sales to other countries rises alongside with the shock, while expenditure declines. The investment rise and aggregate sales to other countries exceeding the decline in expenditure, results into growth in output which is considerable for positive shock. Likewise, the direct relationship amid investment and savings.	The methodology, the sample period data was not explained in this research work. This will therefore make it possible for future research work to be done by a means of extension of the work done.
30	Sarode S. (2012)	The research work aims to find the link between FDI and its impact on Indian economy	D.W. AIC (Akaike Information Criterion) and SC (Schwarz Criterion).	Time series data	The Causality Granger Test and the function of impulse response.	FDI had a inverse impact on current account and a direct impact on capital account. FDI affected the current account and GDP a lot. FDI Granger caused negative position of the current account or the other way around. The negative effect of foreign capital inflow on the current account had come into picture for India. The coefficient of the impulse response examination indicates that foreign capital inflow has an inverse impact on the current account; it suggested that FDI promotes the negative position of the current account. The positive association amid foreign capital inflow and capital account by the Causality Granger Test was expected.	Theory base of the research work was not highlighted. Also, the method of analysis can be upgraded for a more robust result.
31	Borensztein E. De Gregorio J., Lee J.W. (1998)	To observe practically the significance of foreign capital inflow in the course of transmission of technology and growth economically for least developed nations.	Endogenous Growth Model	Panel Data	Seemingly Unrelated Regressions Technique (SUR).	Inflow of foreign capital has a direct general impact on the growth economically, however, the degree of this impact relies on the human reserve value obtainable in the domestic nation economic environment. Nonetheless, the character of the relationship of foreign capital inflow with reserve of human investment is that, for nations with minimal investment the constant impact of foreign capital inflow is inverse. The regressions within countries also depicts that foreign capital inflow applies a direct, however, weak impact on home economy's capital expenditure. This however, shows an inverse relationship between foreign capital inflow and growth.	The number of countries under review is good but the number of years can be increased and even made more recent particularly to accommodate the recent global financial meltdown and see possible effect of that on financial flows and its impact on economic growth.

32	Dhakal D.; Rahman S.; and Upadhyaya K.P. (2007)	It examined the subsistence and character of the causal relationship amid foreign capital inflow and economic growth. The current examination centers on Southern and South-eastern Asia, with the most prominent growth of foreign capital.	Foreign Direct Investment Model and Growth Model	Panel Data	Regression Analysis; Granger Casualty Test	The impact of faoreign capital inflows on consequent growth in the economy is not tangible meanwhile the impact of economic growth on consequent foreign capital inflow is direct and tangible. The addition of country models in the growth equation depicts that the impact of growth on foreign capital inflow as direct, declining, and tangible. The interaction impact on both equations, depicts that the growth equation shows that the impact of foreign capital inflow on growth economically has more direct impact for economies typified by higher openness to trade, minimized legislation, minimal inflows of bilateral aid, and low income per capita. The negative interaction impact of legislation, in the result indicates the benefits of inflow of foreign capital contained by an environment that is institutional in nature that otherwise limits the effectiveness of investments.	The inclusion of country dummies was not reported in the paper; this could be a very costly omission and therefore needs to be revisited.
33	Ayanwale A.B. (2007)	Analysing the association amid foreign capital inflow and growth economically in Nigeria, thereby tackling the arguement of the precise focus to the growth of foreign capital inflow for the country.	The Augmented Growth Model	Time Series Data	Ordinary Least Square and the 2SLS Method of analysis.	The result shows that trade openness is inversely associated to inflow of foreign capital. ROI and physical expenditure investment have a direct association with foreign capital inflow, though Returns on Investment is not statistically significant. There is a positive association amid inflow of foreign capital; Inflation, and Government size. Whereas a negative association for inflowof foreign capital and Human Capital and Political Stability. For Nigeria foreign capital inflow directly enhances growth economically. However, the total impact of inflow of foreign capital on growth in the economy is not tangible, the factors of inflow of foreign capital has a direct effect. Inflow of foreign capital into the communication sector has the greatest growth prospectives for the economy.	Though the number of years was sufficient for the analysis, the study could have made more comparism with other African countries and even other areas of the world. Also to get more applicable results, a more sophisticated method of analysis could have been used to help measure possible shocks and their implications on the economy.
34	Fortanier F. (2007)	Analyzing the variations in the significance of growth of foreign capital inflows from several nations by source, utilizing data on six main outward foreign investors bilateral stocks.	Augmented Solow Model and Endogenous Growth Model	Panel Data	Regression Analysis	The major independent factors are tangibly related with the dependent factor, *GDP*, except for institutions. Tangilbe association subsist amid the independent factors, namely education, original Gross Domestic Product and institutions. Foreign capital flow has a inverse impact on growth for nations with minimal of investment in human resources; reasonably trade clogged; or typified by poor institutional value. Nevertheless, foreign capital inflow has a direct impact on growth for economies that attain maximally on the above mentioned factors.	The number of countries under observation seems sufficient but the number of years used for the analysis seems scanty considering the nature of the test and impact desired to be measured by the research work.
35	Kohler P. (2010)	The research study aimed at analyzing the behavior of multi-national enterprises (MNE) encountering a	Revelation principle. Cournot Nash equilibrium	N/A	Correlation analysis.	Weak institution is impediment to FDI. Insecure environment, local bureaucracy, and corruption are all hindrances and affect FDI flows to host countries with weak institutions.	The analysis did not consider that the domestic authorities are stimulated to arrange contests amid the

		institutional situation that is fragile in the domeatic economy.	.				international investors so as to take advantage of the degree of corruption. The kind of data used was also not specified in the research work.
36	Nushiwat M. (2007)	To examine the reason for the inverse association in previous research work inspite of the sturdy hypothetical opinions for a direct impact.	Two gap model	Cross country data	Regression analysis	Relationship amid savings and bilateral aid is usually direct, while lag variable is not sustained in approximaing aid as individual factors relating to its origin; from multilateral institution.	Nature of data is not properly highlighted. Better method of analysis need be used for more robust results.
37	Baltabaev B. (2012)	The study aims at improving the understanding of FDI growth relationship and testing the benefit of comparative laybackness of hypothesis in a consistent econometric framework.	Technological spillovers Theory	Panel data	GMM estimation method	The positive impact of foreign capital inflows on total factor productivity increase relies on the degree of the capability to absorb of the receiving countries with conditions of the distance to the technology leader (technology gap). Results suggest that the countries with larger technology gaps seem to benefit more from FDI.	Evidence of presence of heteroskedasticity of variables. The results was also not fully reported probably the instance of making the work compact.
38	Easterly W. (1999)	The study aims to examine the consistency of the Financing Gap model with different growth theories. To determine if aid is channelled directly into investment, and if a constant direct association exists temporarily amid investment and growth.	Linear aid-investment-growth model; Financing Gap model.	Cross-country data	Regression analysis.	There are zero coefficients on aid in a cross-section investment regression. At short-run horizons there is no evidence that investment is a necessary condition for high growth.	A more encompassing method of analysis could have been used to arrive at a more robust result.
39	Cheng L.K., Qiu L.D., Tan G. (2005)	Study is intended to complement the existing literature by explaining FDI made by firms from technologically more advanced economies in technologically less advanced economies.	Ricardian trade model; (Two region Two good).	N/A	Qualitative Analysis.	The transmission of technology through (MNEs) to raise global productivity and product trade. With high products, a consistent decline in the price of transformation of technology will result into more and more technically complex products to undergo the output cycle.	The research work is purely qualitative with no quantitative input. It rather extended the traditional and continuum Ricardian models to feature both international trade and technology transfer via FDI by MNEs. Data should have been tested to justify conclusion with its own empirical findings. The contribution to knowledge would have been therefore more precise by putting to test its assertions which have been based on selected theories.

40	Taslim M.A. and Weliwita A. (2000)	The study aims at contending with the evident argument amid the hypothetical observations and the hypotheses which takes the position that saving is the sole, limitation on investment. It also aims at negating this approach and highlights its focal importance in growth and investment economically.	The 2 gap and the poverty vicious circle theory.	Time series data	Cointegration analysis	It was found in the analysis of data that in Bangladesh aid had a great inverse impact on savings for the study phase, and as a result could not tangibly advance investment. This, however, was not unexpected as aid did not contribute considerably and positively in the task of economic development for the economy.	A comparative analysis would have given a more robust result. More countries could therefore be added to avail the study a broader scope and assertion.

Source: Author's Compilation (2013)

APPENDIX II: Regional and Income Classification of Countries

Table A2.1

List of Countries and their Identifiers (Regional)

S/no	Central	id	Eastern	id	Northern	id	Southern	Id	Western	id
1	Angola (LM)	10	Burundi (L)	1	Algeria (LM)	19	Botswana (LM)	25	Benin (L)	30
2	Cameroon (LM)	11	Comoros (L)	2	Egypt (LM)	20	Lesotho (LM)	26	Burkina Faso (L)	31
3	Central African Republic (L)	12	Djibouti (LM)	3	Libya (UM)	21	Namibia (LM)	27	Cape Verde (LM)	32
4	Chad (L)	13	Kenya (L)	4	Morocco (LM)	22	South Africa (UM)	28	Côte d'Ivoire (L)	33
5	Congo Rep (LM)	14	Madagascar (L)	5	Sudan (LM)	23	Swaziland (LM)	29	Gambia (L)	34
6	Congo Dem Rep (L)	15	Mauritius (UM)	6	Tunisia (LM)	24			Ghana (L)	35
7	Equatorial Guinea (H)	16	Mozambique (L)	7					Mauritania (L)	36
8	Gabon (UM)	17	Zambia (L)	8					Nigeria (L)	37
9	Sao tome and Principe (L)	18	Zimbabwe (L)	9					Senegal (L)	38
10									Togo (L)	39

Source: Author's Compilation (2013)

Table A2.2

Income Level Classification of African Countries

S/no	LOW INCOME COUNTRIES	LOW-MIDDLE INCOME COUNTRIES	UPPER MIDDLE INCOME COUNTRIES	HIGH INCOME COUNTRIES
1	Benin	Algeria	Gabon	Equatorial Guinea
2	Burkina Faso	Angola	Libya	
3	Burundi	Botswana	Mauritius	
4	Central African Republic	Cameroon	South Africa	
5	Chad	Cape Verde		
6	Comoros	Congo Rep		
7	Congo Dem Rep	Djibouti		
8	Côte d'Ivoire	Egypt		
9	Gambia	Lesotho		
10	Ghana	Morocco		
11	Kenya	Namibia		
12	Madagascar	Sudan		
13	Mauritania	Swaziland		
14	Mozambique	Tunisia		
15	Nigeria			
16	Sao tome and Principe			
17	Senegal			
18	Togo			
19	Zambia			
20	Zimbabwe			

Source: Author's Compilation (2013).

APPENDIX III: Sources of Variable and Measurement

Table A3.1

Sources of Variable and Measurement

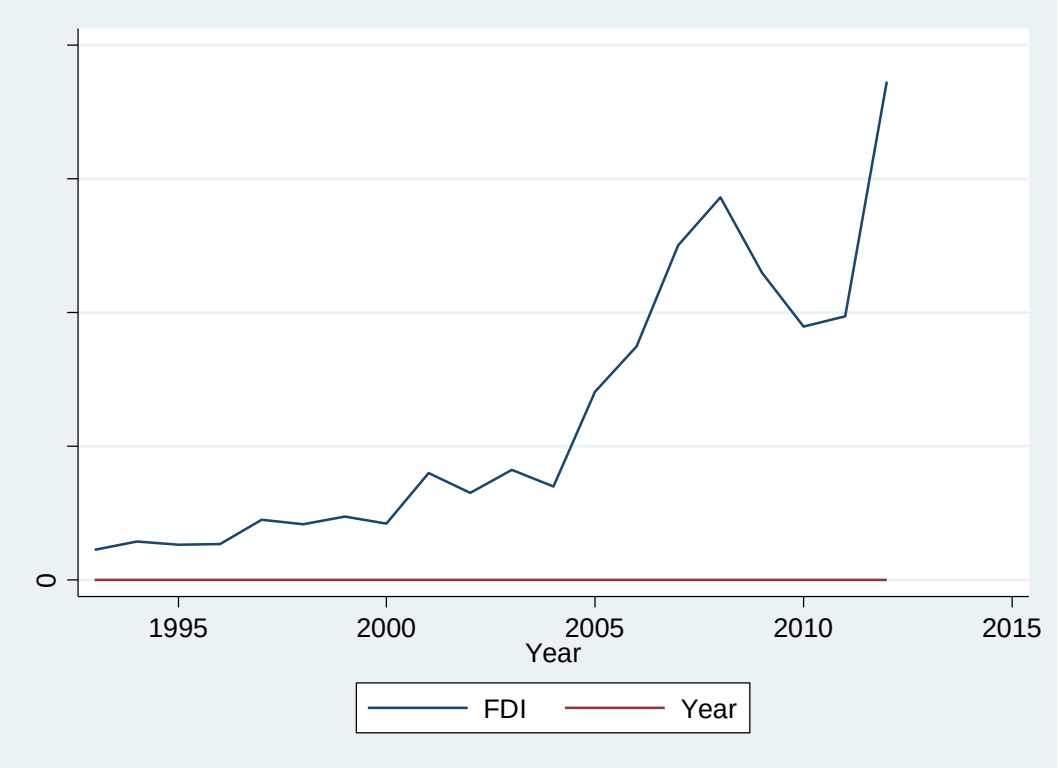
Variable	Definitions	Variable Measurement	Source
GDP_k	GDP per capita	Millions	WDI
LIEXPT	Life expectancy	Years	WDI
EDUI	Education index	Thousands	WDI
FDI	FDI net inflow	Millions	WDI
L	Active labour force	Millions	WDI
K	Gross fixed capital formation	Millions	UNSD
TO	Trade Openness	Millions	UNSD/WDI
T	Technology	Thousand	WDI
ROI	Return on investment	percent	UNSD
M_2	Money and quasi money (M_2)	Millions	WDI
CPT	Corruption	Thousands	WGI
Inflt	Percentage change in the GDP deflator or consumer price index	percent	WDI
Govt. cons.	Government final consumption expenditure	Millions	UNSD
Infrst	Telephone mainlines (per 1,000 people)	Millions	WDI
Exg Rte	Exchange Rate AMA	percent	UNSD

Source: Author's Compilation (2013).

APPENDIX IV: Variables Trend Graphical Representation

GRAPH A4.1

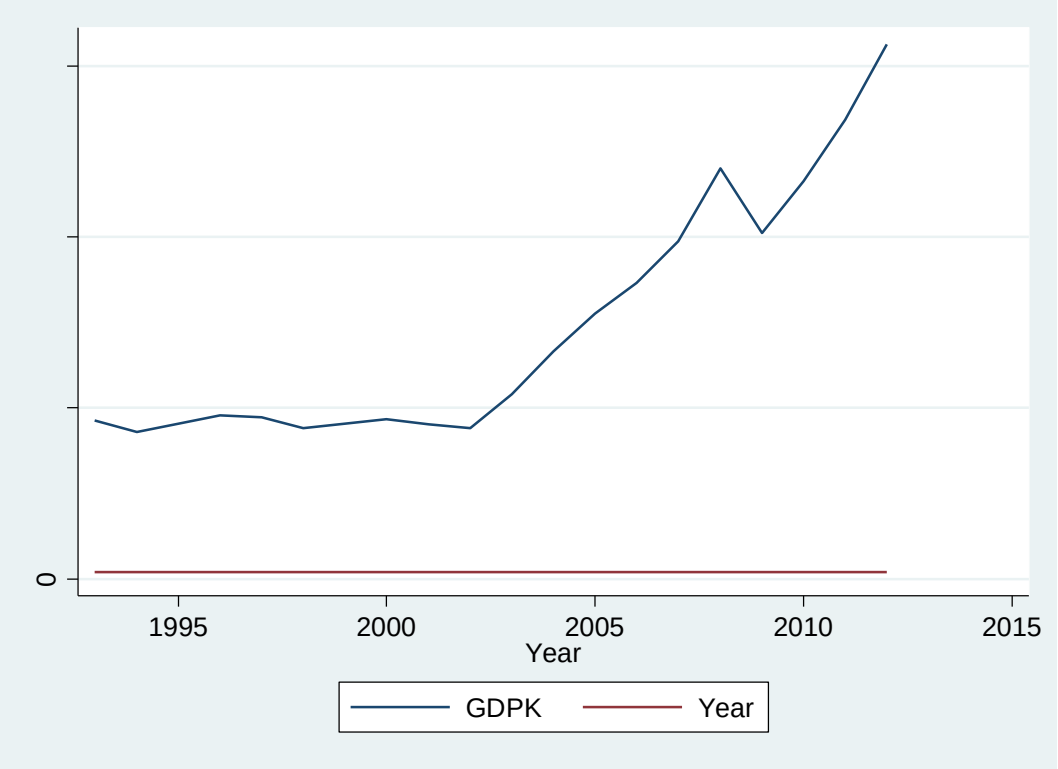
Trend Line of FDI



Source: Survey data from the study (2013)

Graph A4.2

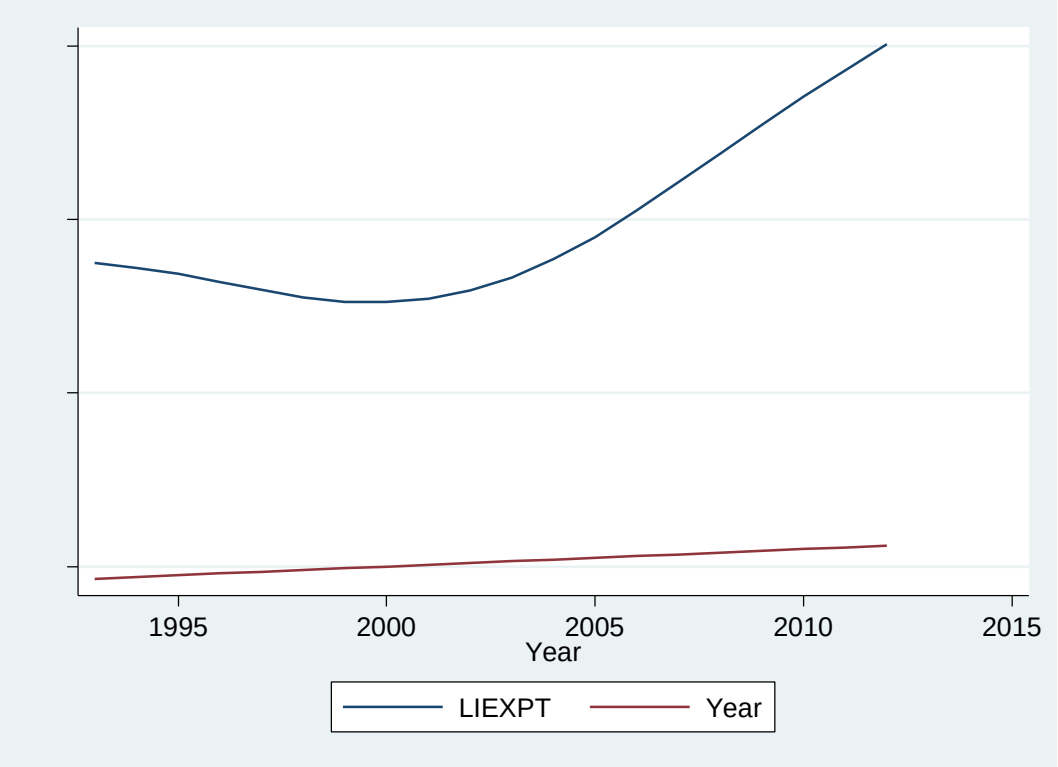
Trend Line of GDP_K



Source: Survey data from the study (2013)

Graph A4.3

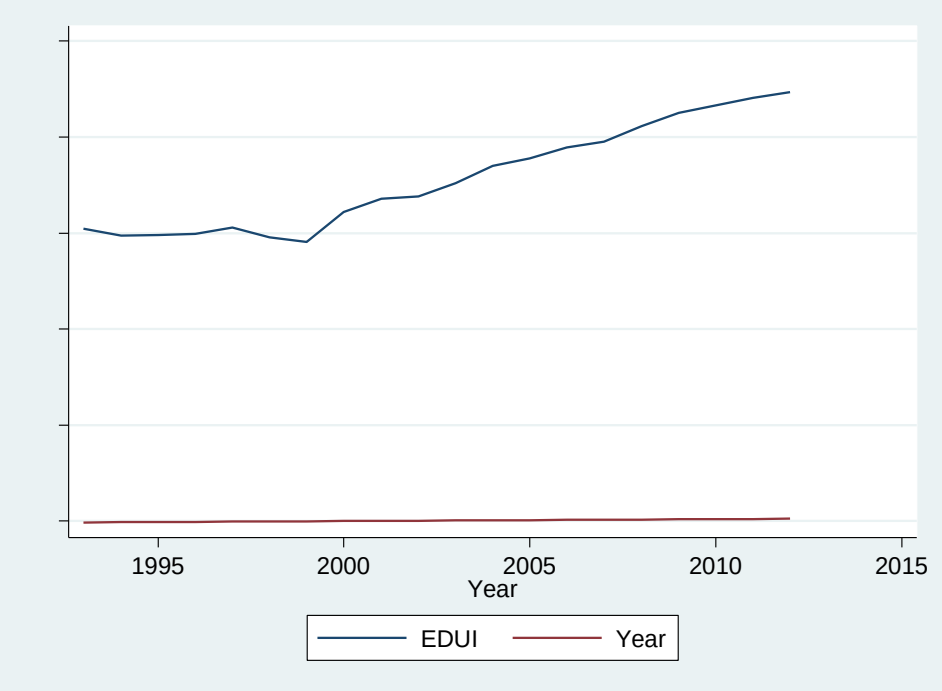
Trend Line of LIEXPT



Source: Survey data from the study (2013)

Graph A4.4

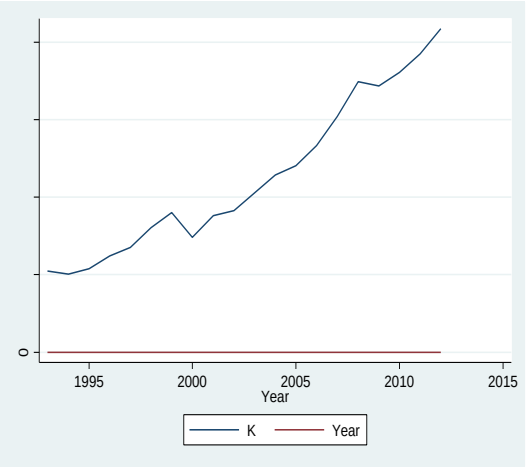
Trend Line of EDUI



Source: Survey data from the study (2013)

Graph A4.5

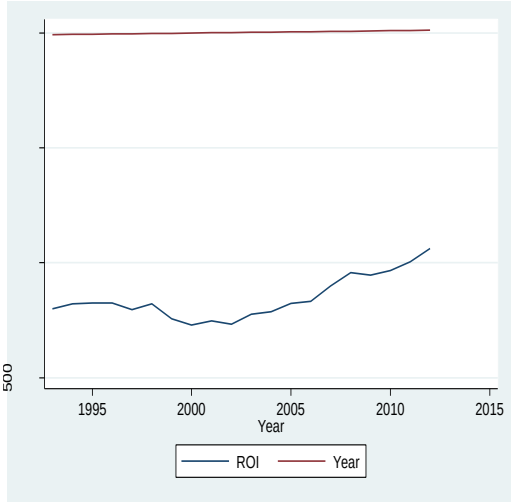
Trend Line of K



Source: Survey data from the study (2013)

Graph A4.6

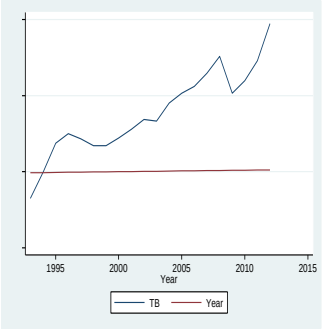
Trend Line of ROI



Source: Survey data from the study (2013)

Graph A4.7

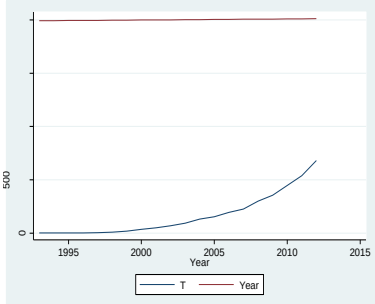
Trend Line of TO



Source: Survey data from the study (2013)

Graph A4.8

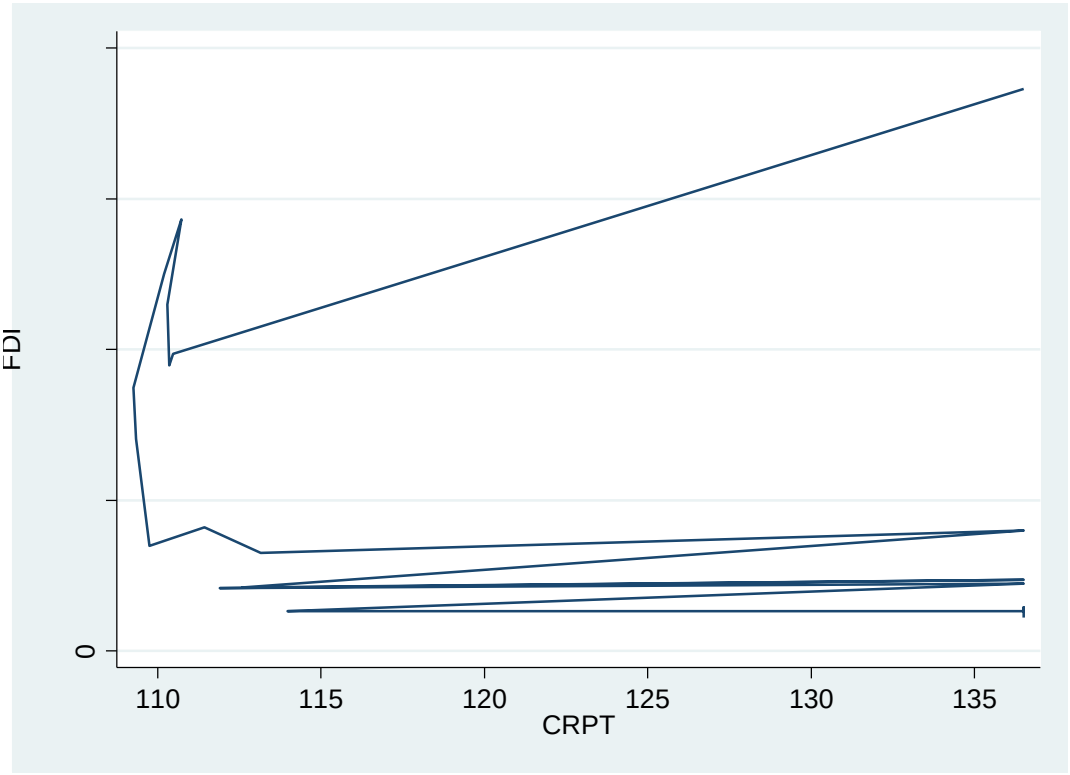
Trend Line of T



Source: Survey data from the study (2013)

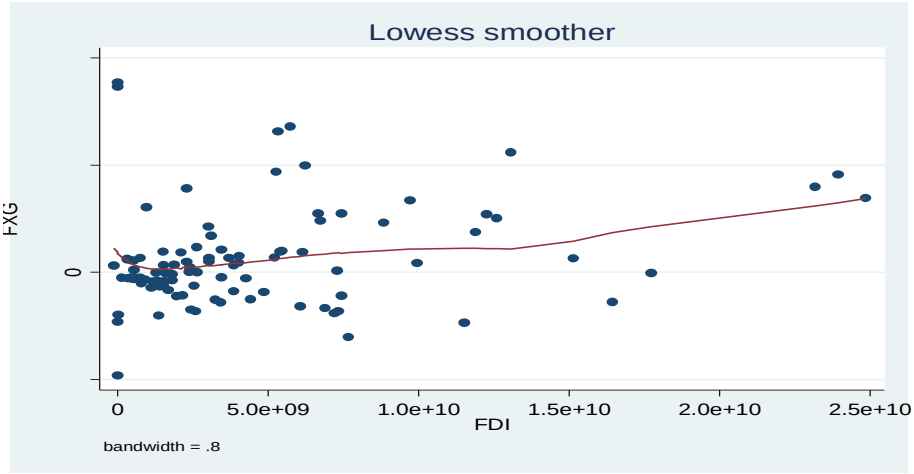
Graph A4.9

TREND GRAPH OF FDI AND CORRUPTION



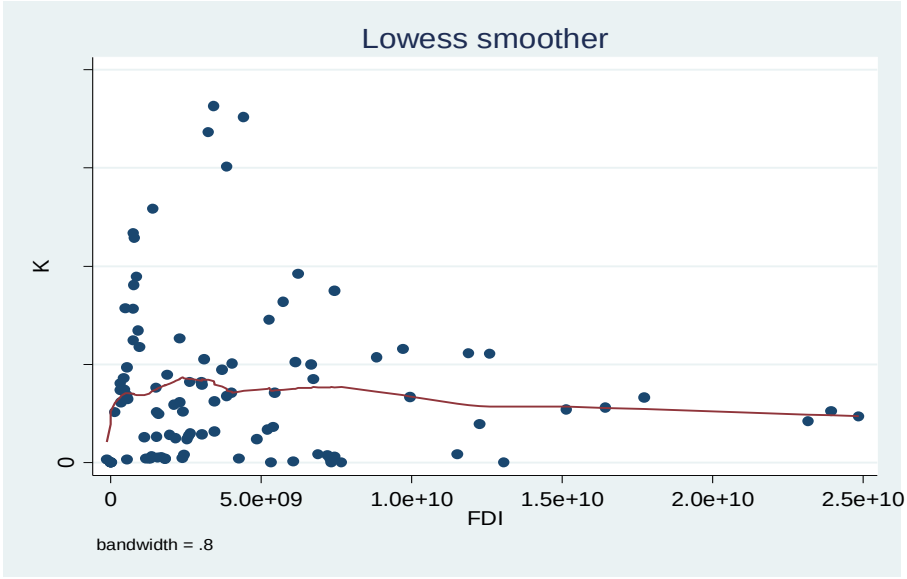
Source: Survey data from the study (2013)

Graph A4.10
Lowess Smoother Graph of FDI and Foreign Exchange Gap.



Source: Survey data from the study (2013)

Graph A4.11
Lowess Smoother Graph of FDI and Domestic Investment.



Source: Survey data from the study (2013)

APPENDIX V: Hausman Result

Table A5.1

	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	fixed	random	Difference	S.E.
lnfdi	-.0085601	-.0087842	.0002241	.
lnl	.0776893	.0439472	.033742	.0050327
lnk	.113324	.1159306	-.0026066	.
lnto	.2062171	.2074463	-.0012291	.
lnt	.0435794	.0242308	.0193486	.0066735
lnroi	-.0857863	-.0749988	-.0107875	.
lnm2	-.0946093	-.0583459	-.0362634	.0057373
lncrpt	-.0323208	-.0181142	-.0142066	.0061564
lninflt	.003888	.0034704	.0004176	.0005397
lngovtcons	-.0640924	-.0701804	.006088	.
lninfrst	.0999066	.0855988	.0143078	.0060682
lnexr	.0543933	.0219035	.0324897	.0049388

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi^2 (12) = (b-B)'[(V_b-V_B) ^ (-1)] (b-B) = 47.4

Prob>chi2 = 0.0000

(V_b-V_B is not positive definite)

APPENDIX VI: Estimated Regression Result Tables

Table A6.1 (Estimated Regression Result)

DEPENDENT VARIABLE - MEASURE OF ECONOMIC DEVELOPMENT (GDP_K; LIEXPT; EDUI)						
VARIABLE	**REGRESSION I GDP_K**		**REGRESSION II LIEXPT**		**REGRESSION III EDUI**	
	LSDV	**Pooled OLS**	**LSDV**	**Pooled OLS**	**LSDV**	**Pooled OLS**
lnFDI	0.013** [2.30] (0.022)	0.060*** [6.24] (0.000)	0.003**[2.30] (0.022)	0.006** [2.47] (0.014)	0.009** [1.99] (0.047)	-0.009 [1.56] (0.119)
lnL	-0.156 [1.36] (0.173)	-0.715*** [27.58] (0.000)	0.078***[3.16] (0.002)	-0.027*** [4.31] (0.000)	0.538*** [6.04] (0.000)	0.044*** [2.92] (0.004)
lnK	1.068*** [23.63] (0.000)	0.268*** [8.32] (0.000)	-0.010 [1.05] (0.295)	0.025*** [3.22] (0.001)	-0.146***[4.15] (0.000)	0.116*** [6.20] (0.000)
lnTO	-0.235*** [7.02] (0.000)	0.079** [2.03] (0.043)	0.007 [0.93] (0.352)	-0.079*** [8.40] (0.000)	0.090*** [3.46] (0.001)	0.207*** [9.12] (0.000)
lnT	-0.015*** [3.80] (0.000)	0.013** [2.23] (0.026)	-0.003***[3.94] (0.000)	-0.005*** [3.59] (0.000)	0.0150***[4.74] (0.000)	0.024*** [7.20] (0.000)
lnROI	-1.063*** [21.63] (0.000)	-0.216*** [5.38] (0.000)	0.025** [2.39] (0.017)	0.037*** [3.78] (0.000)	0.181*** [4.73] (0.000)	-0.075*** [-3.21] (0.001)
lnM_2	0.238*** [13.99] (0.000)	0.499*** [21.09] (0.000)	0.015***[4.12] (0.000)	0.038*** [6.70] (0.000)	-0.029** [2.17] (0.030)	-0.058*** [4.24] (0.000)
lnCRPT	-0.003 [0.10] (0.920)	-0.079* [1.83] (0.068)	0.008 [1.49] (0.135)	0.008 [0.83] (0.405)	0.060***[2.96] (0.003)	-0.018 [0.73] (0.468)
lnINFLT	0.001 [0.43] (0.671)	-0.007 [0.97] (0.333)	0.0004 [0.56] (0.574)	-0.001 [0.50] (0.616)	-0.007***[2.70] (0.007)	0.003 [0.78] (0.434)
lnGOVTCONS	0.079*** [3.40] (0.001)	-0.144*** [4.53] (0.000)	0.015***[3.05] (0.002)	-0.040*** [5.17] (0.000)	0.053***[2.94] (0.003)	-0.070*** [3.80] (0.000)
lnINFRST	-0.058*** [2.79] (0.005)	0.029 [1.23] (0.218)	0.003 [0.73] (0.466)	0.049*** [8.70] (0.000)	-0.019 [1.18] (0.238)	0.086*** [6.32] (0.000)
lnEXR	-0.259*** [15.48] (0.000)	-0.591*** [26.23] (0.000)	-0.010*** [2.72] (0.007)	-0.025*** [4.69] (0.000)	-0.015 [1.12] (0.262)	0.022* [1.67] (0.095)
Constant	-24.846***[14.05] (0.000)	3.232*** [10.93] (0.000)	1.90*** [4.95] (0.000)	3.980*** [55.75] (0.000)	-2.37* [1.72] (0.085)	3.664*** [21.32] (0.000)
R^2	0.9780	0.8604	0.9484	0.5956	0.8213	0.3670
Adjusted R^2	0.9762	0.8579	0.9443	0.5883	0.8069	0.3555
F-Stat	552.24 (0.0000)	338.61 (0.0000)	228.30 (0.0000)	80.89 (0.0000)	57.09 (0.0000)	31.84 (0.0000)
No of Countries	39	39	39	39	39	39
Dummy Countries	Yes	No	Yes	No	Yes	No
Number of Observations	672	672	672	672	672	672

Source: Author's Compilation (2013). Regression I are the results of income level (GDP_K), as a proxy for economic development, while regression II and III are results of level of life expectancy (LIEXPT) as a proxy for economic development and education (EDUI) as proxy for Economic Development respectively. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. * indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

TABLE A6.2a

ESTIMATION RESULTS (ROBUSTNESS TABLE - FDI/TO)

DEPENDENT VARIABLE - MEASURE OF ECONOMIC DEVELOPMENT (GDP_K)				
LSDV				
VARIABLE	**WITH (FDI)**	**WITHOUT (FDI)**	**WITH (TO)**	**WITHOUT (TO)**
lnFDI	0.013** [2.30] (0.022)	-	0.013** [2.30] (0.022)	0.004 [0.79] (0.432)
lnL	-0.156 [1.36] (0.173)	-0.059 [0.54] (0.590)	-0.156 [1.36] (0.173)	-0.292** [2.49] (0.013)
lnK	1.068*** [23.63] (0.000)	1.085*** [25.04] (0.000)	1.068*** [23.63] (0.000)	1.118*** [24.13] (0.000)
lnTO	-0.235*** [7.02] (0.000)	-0.226*** [6.99] (0.000)	-0.235*** [7.02] (0.000)	-
lnT	-0.015*** [3.80] (0.000)	-0.015*** [3.64] (0.000)	-0.015*** [3.80] (0.000)	-0.014*** [3.39] (0.001)
lnROI	-1.063*** [21.63] (0.000)	-1.088*** [23.25] (0.000)	-1.063*** [21.63] (0.000)	-1.133*** [22.72] (0.000)
lnM_2	0.238*** [13.99] (0.000)	0.251*** [15.10] (0.000)	0.238*** [13.99] (0.000)	0.238*** [13.45] (0.000)
lnCRPT	-0.003 [0.10] (0.920)	-0.008 [0.33] (0.741)	-0.003 [0.10] (0.920)	-0.006 [0.21] (0.833)
lnINFLT	0.001 [0.43] (0.671)	-0.0003 [0.12] (0.904)	0.001 [0.43] (0.671)	0.0007 [0.21] (0.834)
lnGOVTCONS	0.079*** [3.40] (0.001)	0.057** [2.51] (0.012)	0.079*** [3.40] (0.001)	0.055** [2.29] (0.022)
lnINFRST	-0.058*** [2.79] (0.005)	-0.085*** [4.18] (0.000)	-0.058*** [2.79] (0.005)	-0.074*** [3.45] (0.001)
lnEXR	-0.259*** [15.48] (0.000)	-0.267*** [16.08] (0.000)	-0.259*** [15.48] (0.000)	-0.270*** [15.66] (0.000)
Constant	-24.846*** [14.05] (0.000)	-22.414*** [19.34] (0.000)	-24.846*** [14.05] (0.000)	-23.819*** [13.02] (0.000)
R^2 Adjusted R^2 F-Stat Number of Countries Dummy country Number of Observations	0.9780 0.9762 552.24 (0.0000) 39 Yes 672	0.9775 0.9759 593.20 (0.0000) 39 Yes 719	0.9780 0.9762 552.24 (0.0000) 39 Yes 672	0.9763 0.9744 521.97 (0.0000) 39 Yes 672

Source: Author's Compilation (2013). Results show the level of income (GDP_K) as a proxy for economic development. Regression I and II are the results of adjustment by removing FDI and TO respectively to validate robustness of selected variables. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. * indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

TABLE A6.2b

ESTIMATION RESULTS (ROBUSTNESS TABLE - K/ROI)

DEPENDENT VARIABLE - MEASURE OF ECONOMIC DEVELOPMENT (GDP_K)				
LSDV				
VARIABLE	**WITH (K)**	**WITHOUT (K)**	**WITH (ROI)**	**WITHOUT (ROI)**
lnFDI	0.013** [2.30] (0.022)	0.016** [2.14] (0.033)	0.013** [2.30] (0.022)	0.013* [1.75] (0.081)
lnL	-0.156 [1.36] (0.173)	0.347**[2.24] (0.025)	-0.156 [1.36] (0.173)	0.104 [0.69] (0.491)
lnK	1.068*** [23.63] (0.000)	-	1.068*** [23.63] (0.000)	0.166*** [7.21] (0.000)
lnTO	-0.235*** [7.02] (0.000)	-0.360*** [7.91] (0.000)	-0.235*** [7.02] (0.000)	-0.385*** [8.87] (0.000)
lnT	-0.015*** [3.80] (0.000)	-0.010* [1.80] (0.073)	-0.015*** [3.80] (0.000)	-0.007 [1.35] (0.177)
lnROI	-1.063*** [21.63] (0.000)	0.009 [0.36] (0.721)	-1.063*** [21.63] (0.000)	-
lnM_2	0.238*** [13.99] (0.000)	0.399*** [18.48] (0.000)	0.238*** [13.99] (0.000)	0.375*** [17.90] (0.000)
lnCRPT	-0.003 [0.10] (0.920)	-0.036 [1.01] (0.312)	-0.003 [0.10] (0.920)	-0.042 [1.23] (0.219)
lnINFLT	0.001 [0.43] (0.671)	0.0002 [0.04] (0.965)	0.001 [0.43] (0.671)	0.002 [0.50] (0.616)
lnGOVTCONS	0.079*** [3.40] (0.001)	0.271*** [9.02] (0.000)	0.079*** [3.40] (0.001)	0.243*** [8.33] (0.000)
lnINFRST	-0.058*** [2.79] (0.005)	0.017 [0.59] (0.557)	-0.058*** [2.79] (0.005)	0.013 [0.48] (0.631)
lnEXR	-0.259*** [15.48] (0.000)	-0.401***[18.66] (0.000)	-0.259*** [15.48] (0.000)	-0.377*** [18.06] (0.000)
Constant	-24.846*** [14.05] (0.000)	-15.159*** [6.40] (0.000)	-24.846*** [14.05] (0.000)	-14.065*** [6.27] (0.000)
R^2 Adjusted R^2 F-Stat Number of Countries Dummy country Number of Observations	0.9780 0.9762 552.24 (0.0000) 39 Yes 672	0.9582 0.9549 291.20 (0.0000) 39 Yes 672	0.9780 0.9762 552.24 (0.0000) 39 Yes 672	0.9614 0.9584 316.50 (0.0000) 39 Yes 672

Source: Author's Compilation (2013). Results show the income level (GDP_K) as a proxy for Economic development. Regression I and II are the results of adjustment by removing K and ROI respectively to validate robustness of the selected variables. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. * indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

Table A6.3a Estimation Results (Regional GDPk Result)

VARIABLE	Regression I Central Sub-Region LSDV	Regression II Eastern Sub-region LSDV	Regression III Northern Sub-region LSDV	Regression IV Southern Sub-region LSDV	Regression V Western Sub-region LSDV
LnFDI	-0.036** [2.18] (0.031)	0.015** [1.99] (0.048)	0.005 [0.59] (0.559)	-0.00002 [-0.00] (0.998)	0.019 [1.64] (0.103)
LnL	1.779*** [4.63] (0.000)	0.434** [2.21] (0.028)	0.791** [2.18] (0.032)	-0.530** [2.29] (0.025)	-1.053***[4.05] (0.000)
LnK	1.002*** [12.91] (0.000)	0.973***[10.36] (0.000)	0.512*** [2.86] (0.005)	0.793*** [3.76] (0.000)	0.980*** [7.64] (0.000)
LnTO	-0.190** [2.16] (0.033)	-0.414***[6.46] (0.000)	-0.011 [0.25] (0.805)	0.061 [0.75] (0.455)	0.078 [1.09] (0.276)
LnT	-0.058*** [3.86] (0.000)	-0.006 [0.76] (0.451)	-0.042***[4.99] (0.000)	0.0302***[3.98] (0.000)	-0.011* [1.73] (0.085)
lnROI	-0.892***[9.21] (0.000)	-0.807***[7.69] (0.000)	-0.441** [2.15] (0.034)	-0.833***[3.90] (0.000)	-1.135***[9.22] (0.000)
lnM_2	0.198*** [4.68] (0.000)	0.121*** [6.16] (0.000)	0.537*** [9.12] (0.000)	0.474*** [7.82] (0.000)	0.329*** [7.41] (0.000)
lnCRPT	-0.090 [1.05] (0.298)	0.136 [1.51] (0.133)	0.140 [1.27] (0.207)	-0.003 [0.15] (0.884)	-0.405*** [4.36] (0.000)
lnINFLT	-0.014 [0.96] (0.340)	-0.004 [0.34] (0.733)	0.003 [0.98] (0.328)	0.012 [1.14] (0.258)	-0.006 [0.57] (0.571)
lnGOVTCONS	-0.099** [2.31] (0.023)	0.196*** [3.25] (0.001)	-0.116 [0.95] (0.346)	0.110* [1.79] (0.077)	0.154***[4.74] (0.000)
lnINFRST	-0.078**[2.18] (0.891)	-0.097** [2.14] (0.034)	-0.063* [1.78] (0.078)	-0.100 [1.41] (0.163)	0.047 [1.09] (0.277)
lnEXR	-0.203***[4.96] (0.000)	-0.381***[9.06] (0.000)	-0.587***[9.37] (0.000)	-0.996***[17.54] (0.000)	-0.463***[9.42] (0.000)
Constant	-35.372*** [9.44] (0.000)	-23.479***[8.49] (0.000)	-27.68***[6.30] (0.000)	-15.355*** [3.74] (0.000)	-11.529***[3.23] (0.001)
R^2	0.9867	0.9832	0.9903	0.9937	0.9586
Adjusted R^2	0.9843	0.9810	0.9885	0.9923	0.9529
F-Stat	408.40 (0.0000)	439.22 (0.0000)	530.02 (0.0000)	719.04 (0.0000)	167.71 (0.0000)
Number of Countries	9	9	6	5	10
Dummy country	Yes	Yes	Yes	Yes	Yes
Number of Observations	131	171	106	90	174

Source: Author's Compilation (2013). Notes: Regression I are the results of income level (GDPk) as a proxy of economic development for the Central sub-region, while Regression II, III, IV, and V are results income level (GDPk) as a proxy of economic development for the Eastern, Northern, Southern, and Western sub-regions respectively. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. Signs* indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

Table A6.3b

Estimation Results (Regional LIEXPT Result)

VARIABLE	Regression I Central sub-region LSDV	Regression II Eastern sub-region LSDV	Regression III Northern sub-region LSDV	Regression IV Southern sub-region LSDV	Regression V Western sub-region LSDV
LnFDI	0.003 [1.25] (0.214)	0.003* [1.70] (0.090)	-0.0005 [0.77] (0.442)	-0.004 [0.92] (0.359)	-0.0003 [0.29] (0.770)
LnL	0.044 [0.94] (0.349)	0.202*** [4.81] (0.000)	0.171*** [6.01] (0.000)	0.296*** [2.96] (0.004)	0.120*** [5.27] (0.000)
LnK	-0.007 [0.72] (0.475)	-0.021 [1.05] (0.294)	0.049*** [3.47] (0.001)	-0.150 [1.64] (0.104)	0.050*** [4.48] (0.000)
LnTO	-0.014 [1.33] (0.186)	-0.028** [2.01] (0.046)	-0.007** [2.03] (0.045)	-0.071** [2.03] (0.046)	-0.013** [2.12] (0.036)
LnT	-0.004** [2.00] (0.048)	-0.008*** [4.48] (0.000)	0.002*** [2.73] (0.008)	-0.005 [1.67] (0.100)	-0.001* [1.76] (0.080)
LnROI	-0.0003 [0.03] (0.978)	0.010 [0.45] (0.656)	-0.023 [1.41] (0.162)	0.175* [1.91] (0.060)	-0.067*** [6.26] (0.000)
lnM_2	0.018*** [3.44] (0.001)	0.014*** [3.28] (0.001)	-0.014*** [3.02] (0.003)	0.009 [0.34] (0.731)	0.017*** [4.29] (0.000)
LnCRPT	0.019* [1.83] (0.071)	0.063*** [3.29] (0.001)	-0.011 [1.23] (0.224)	-0.016** [2.15] (0.035)	-0.009 [1.17] (0.245)
LnINFLT	0.0009 [0.51] (0.612)	0.004 [1.47] (0.144)	-0.0005**[2.07] (0.041)	0.010** [2.11] (0.038)	0.0005 [0.53] (0.597)
lnGOVTCONS	0.011** [2.15] (0.034)	0.050*** [3.83] (0.000)	-0.020** [2.09] (0.040)	-0.036 [1.36] (0.179)	0.002 [0.57] (0.568)
lnINFRST	-.004 [0.98] (0.328)	0.018* [1.90] (0.059)	0.011*** [3.90] (0.000)	-0.006 [0.21] (0.834)	-0.017*** [4.55] (0.000)
LnEXR	-0.010* [1.96] (0.052)	0.023** [2.57] (0.011)	-0.013*** [2.66] (0.009)	-0.123***[5.01] (0.000)	-0.009** [2.12] (0.036)
Constant	3.187***[7.00] (0.000)	-0.275*** [3.59] (0.000)	1.255*** [3.63] (0.000)	3.794***[2.14] (0.035)	0.109 [0.35] (0.728)
R^2	0.9789	0.9706	0.9947	0.9044	0.9899
Adjusted R^2	0.9750	0.9666	0.9936	0.8834	0.9885
F-Stat	254.55 (0.0000)	247.21 (0.0000)	966.47 (0.0000)	43.15 (0.0000)	707.04 (0.0000)
Number of Countries	9	9	6	5	10
Dummy country	Yes	Yes	Yes	Yes	Yes
Number of Observations	131	171	106	90	174

Source: Author's Compilation (2013). Notes: Regression I are the results of life expectancy (LIEXPT) as a proxy of Economic development for the Central sub-region, while Regression II, III, IV, and V are the results of life expectancy (LIEXPT) as a proxy of Economic development for the Eastern, Northern, Southern, and Western sub-regions respectively. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. Signs* indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

Table A6.3c

Estimation Results (Regional EDUI Result)

VARIABLE	Regression I Central sub-region LSDV	Regression II Eastern sub-region LSDV	Regression III Northern sub-region LSDV	Regression IV Southern sub-region LSDV	Regression V Western sub-region LSDV
LnFDI	-0.029* [1.88] (0.063)	0.005 [0.98] (0.328)	-0.004 [0.74] (0.462)	0.001 [0.20] (0.843)	-0.006 [0.64] (0.524)
LnL	1.167*** [3.26] (0.001)	1.314*** [9.38] (0.000)	-0.031 [0.12] (0.902)	-0.187 [1.55] (0.125)	0.025 [0.12] (0.905)
LnK	-0.301*** [4.15] (0.000)	-0.241*** [3.59] (0.000)	0.309** [2.48] (0.015)	-0.282** [2.57] (0.012)	0.123 [1.18] (0.240)
LnTO	0.045 [0.55] (0.582)	-0.056 [1.23] (0.221)	-0.023 [0.72] (0.473)	-0.167*** [3.97] (0.000)	-0.002 [0.04] (0.971)
LnT	0.009 [0.66] (0.514)	-0.025*** [4.42] (0.000)	0.035*** [5.97] (0.000)	-0.004 [1.01] (0.317)	.021***[3.97] (0.000)
LnROI	0.407*** [4.51] (0.000)	0.191** [2.54] (0.012)	-0.173 [1.21] (0.228)	0.248** [2.23] (0.029)	-0.120 [1.20] (0.233)
lnM_2	-0.054 [1.36] (0.176)	-0.061*** [4.32] (0.000)	0.002 [0.05] (0.958)	0.082** [2.60] (0.011)	0.054 [1.51] (0.133)
LnCRPT	-0.128 [1.58] (0.117)	-0.048 [0.75] (0.452)	-0.007 [0.09] (0.932)	0.013 [1.41] (0.162)	-0.063 [0.83] (0.409)
LnINFLT	-0.013 [0.96] (0.340)	0.005 [0.55] (0.585)	0.002 [0.92] (0.359)	0.0003 [0.07] (0.946)	0.020** [2.40] (0.018)
lnGOVTCONS	0.054 [1.35] (0.180)	0.416*** [9.64] (0.000)	-0.290***[3.42] (0.001)	-0.001 [0.06] (0.950)	-0.087***[3.30] (0.001)
lnINFRST	0.030 [0.90] (0.370)	0.002 [0.06] (0.952)	-0.107***[4.35] (0.000)	0.101*** [2.75] (0.008)	0.030 [0.87] (0.388)
lnEXR	0.009 [0.23] (0.822)	0.150*** [4.99] (0.000)	-0.207*** [4.75] (0.000)	0.042 [1.44] (0.155)	-0.099** [2.48] (0.014)
Constant	-0.837 [0.24] (0.811)	-18.568***[9.40] (0.000)	6.219** [2.03] (0.045)	12.549***[5.88] (0.000)	2.367 [0.82] (0.416)
R^2	0.7496	0.9450	0.9554	0.7036	0.8742
Adjusted R^2	0.7040	0.9376	0.9468	0.6387	0.8568
F-Stat	16.46 (0.0000)	128.76(0.0000)	111.01 (0.0000)	10.83 (0.0000)	50.30 (0.0000)
Number of Countries	9	9	6	5	10
Dummy country	YES	YES	YES	YES	YES
Number of Observations	131	171	106	90	174

Source: Author's Compilation (2013). Regression I are the results of level of education (EDUI) as proxy economic development for the Central sub-region, while Regression II, III, IV, and V are results of level of education (EDUI) as proxy economic development for the Eastern, Northern, Southern, and Western sub-regions respectively. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. Signs* indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

Table A6.4
Estimation Results: Income Classification

DEPENDENT VARIABLE-MEASURE OF ECONOMIC DEVELOPMENT (GDP_K)			
LSDV			
VARIABLE	**REGRESSION I LOW INCOME**	**REGRESSION II LOW MIDDLE INCOME**	**REGRESSION III UPPER MIDDLE INCOME**
lnFDI	0.014* [1.91] (0.057)	-0.004 [0.55] (0.582)	0.007 [0.52] (0.605)
lnL	-0.128*** [0.67] (0.000)	-0.563*** [4.31] (0.000)	0.79 [1.44] (0.156)
lnK	1.181*** [14.82] (0.000)	0.557*** [5.18] (0.000)	1.471*** [4.35] (0.000)
lnTO	-0.231*** [4.55] (0.000)	-0.136 *** [2.74] (0.007)	0 .003 [0.05] (0.962)
lnT	-0.025*** [4.46] (0.000)	-0.010** [2.00] (0.047)	0.031 [1.34] (0.189)
lnROI	-1.163*** [13.23] (0.000)	-0.633*** [5.76] (0.000)	-1.535*** [5.00] (0.000)
lnM_2	0.160*** [7.42] (0.000)	0.609*** [18.91] (0.000)	0.203 [1.52] (0.135)
lnCRPT	-0.109 [1.55] (0.123)	-0.003 [0.15] (0.879)	0.005 [0.03] (0.975)
lnINFLT	-0.020 ** [2.00] (0.046)	.001 [0.16] (0.870)	0.014*** [3.54] (0.001)
lnGOVTCONS	0.091*** [3.15] (0.002)	0.042 [0.98] (0.327)	-0.313 [1.38] (0.176)
lnINFRST	-0.002 [0.05] (0.958)	-0.052** [2.11] (0.036)	-0.325*** [2.96] (0.005)
lnEXR	-0.183*** [8.65] (0.000)	-0.620*** [19.86] (0.000)	-1.010*** [9.79] (0.000)
Constant	-23.41*** [12.52] (0.000)	-10.88*** [5.19] (0.000)	-28.16*** [3.22] (0.003)
R^2	0.9268	0.9816	0.9827
Adjusted R^2	0.9199	0.9795	0.9762
F-Stat	133.54(0.0000)	465.51(0.0000)	151.42 (0.0000)
No of Countries	20	14	4
Dummy Countries	Yes	Yes	Yes
Number of Observations	369	244	56

Source: Author's Compilation (2013). Income level (GDP_K), as a proxy of economic development
Regression I, II and III are the results of low income, low middle income and upper middle income respectively. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. * indicates significance at 10 percent; **-significance at 5percent;
***-significance at 1 percent.

Table A6.5 Estimation Results - Outliers Effect

DEPENDENT VARIABLE - MEASURE OF ECONOMIC DEVELOPMENT (GDP_K)				
LSDV				
VARIABLE	**WESTERN SUB-REGION**		**SOUTHERN SUB-REGION**	
	ALL	**LESS NGA**	**ALL**	**LESS ZAF**
lnFDI	0.019 [1.64] (0.103)	0.020** [2.16] (0.033)	-0.00002 [-0.00] (0.998)	-0.004 [0.33] (0.742)
lnL	-1.053*** [4.05] (0.000)	-1.907*** [7.70] (0.000)	-0.530** [2.29] (0.025)	-0.616** [2.07] (0.043)
lnK	0.980*** [7.64] (0.000)	0.722*** [6.23] (0.000)	0.793*** [3.76] (0.000)	0.967*** [3.64] (0.001)
lnTO	0.078 [1.09] (0.276)	0.129** [2.15] (0.034)	0.061 [0.75] (0.381)	0.004 [0.04] (0.969)
lnT	-0.011* [1.73] (0.085)	0.008 [1.41] (0.161)	0.0302*** [3.98] (0.000)	0.029*** [3.24] (0.002)
lnROI	-1.135*** [9.22] (0.000)	-0.829*** [7.27] (0.000)	-0.833*** [3.90] (0.001)	-1.006*** [3.70] (0.000)
lnM_2	0.329*** [7.41] (0.000)	0.507*** [12.23] (0.000)	0.474*** [7.82] (0.000)	0.431*** [6.05] (0.000)
lnCRPT	-0.405*** [4.36] (0.000)	-0.194** [2.00] (0.048)	-0.003 [0.15] (0.884)	-0.011 [0.55] (0.587)
lnINFLT	-0.006 [0.57] (0.571)	-0.005 [0.55] (0.583)	0.012 [1.14] (0.258)	0.018 [1.45] (0.154)
lnGOVTCONS	0.154*** [4.74] (0.000)	0.303*** [5.21] (0.000)	0.110* [1.79] (0.077)	0.089 [1.15] (0.253)
lnINFRST	0.047 [1.09] (0.277)	0.074* [1.85] (0.066)	-0.100 [1.41] (0.163)	-0.042 [0.40] (0.693)
lnEXR	-0.463*** [9.42] (0.000)	-0.739*** [13.88] (0.000)	-0.996*** [17.54] (0.000)	-1.018*** [14.38] (0.000)
Constant	-11.529*** [3.23] (0.001)	-0.821 [0.35] (0.729)	-15.355*** [3.74] (0.000)	-12.881*** [3.32] (0.002)
R^2	0.9586	0.9735	0.9937	0.9931
Adjusted R^2	0.9529	0.9696	0.9923	0.9913
F-Stat	167.71 (0.0000)	247.90 (0.0000)	719.04 (0.0000)	530.08 (0.0000)
Number of Countries	10	9	5	4
Dummy country	YES	YES	YES	YES
Number of Observations	174	156	90	71

Source: Author's Compilation (2013). From the results, level of income (GDP_K) as a proxy for economic development as measure, regression I and II are the results of the Western and Southern sub-regions showing the impact of removing outlier's countries from both sub-regions respectively. For the Western sub-region the outlier country is Nigeria, while for the Southern sub-region is South Africa. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. * indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent. NGA is Nigeria and ZAF is South Africa.

Table A6.6 Estimation Results – Determinants of FDI

VARIABLE	REGRESSION
lnL	0.045 [0.43] (0.667)
lnK	0.622*** [4.89] (0.000)
lnTO	1.708*** [11.98] (0.000)
lnT	0.131*** [5.76] (0.000)
lnROI	-0.220 [1.36] (0.173)
lnM_2	0.641*** [6.97] (0.000)
lnCRPT	-0 .147 [0.85] (0.395)
lnINFLT	0.030 [0.99] (0.323)
lnGOVTCONS	-0.447*** [3.53] (0.000)
lnINFRST	-0.324*** [3.49] (0.001)
lnEXR	-0.838*** [9.92] (0.000)
Constant	-5.361***[4.58] (0.000)
R^2	0.6068
Adjusted R^2	0.6003
F-Stat	92.61(0.0000)
No of Countries	39
Dummy Countries	Yes
Number of Observations	672

Source: Estimated by the Author. Impact of determinants of FDI. Absolute t statistics are displayed in parenthesis beside the coefficient estimates, while probability values are in brackets under the coefficient estimates. * indicates significance at 10 percent; **-significance at 5percent; ***-significance at 1 percent.

Table A6.7a Growth Rate of FDI and ROI
Central Region

YEAR	1995	2000	2005	2010
FDIGR	-15.5427	247.5338	-36.8735	554.9072
ROIGR	25.62345	-21.0996	3.166226	34.90815

Source: Survey data from the study (2013)

Table A6.7b Growth Rate of FDI and ROI
Eastern Region

YEAR	1995	2000	2005	2010
FDIGR	-39.0638	125.4685	-0.62325	484.9685
ROIGR	-11.478	-3.01403	12.35023	17.70478

Source: Survey data from the study (2013)

Table A6.7c Growth Rate of FDI and ROI
Northern Region

YEAR	1995	2000	2005	2010
FDIGR	-39.1794	160.8456	305.7158	23.51112
ROIGR	-2.95998	11.92466	12.46774	8.127173

Source: Survey data from the study (2013)

Table A6.7d Growth Rate of FDI and ROI
Southern Region

YEAR	1995	2000	2005	2010
FDIGR	-1447.6	-29.5208	486.1487	-67.3716
ROIGR	-1.06308	-30.2265	-19.9365	33.65029

Source: Survey data from the study (2013)

Table A6.7e Growth Rate of FDI and ROI
Western Region

YEAR	1995	2000	2005	2010
FDIGR	-3.91069	19.63022	270.4176	44.179
ROIGR	4.81012	-0.5207	48.70203	3.233844

Source: Survey data from the study (2013)

Table A6.8a Growth Rate of FDI, Domestic Investment and Foreign Exchange Gap (Central Region)

YEAR	1995	2000	2005	2010
FDI GRT	-15.542652	247.5338	-36.87346	554.9072
K GRT	7.8162656	-5.64572	67.95108	63.48997
FXG	5.497E+09	9.55E+09	3.04E+10	4.98E+10

Source: Survey data from the study (2013)

Table A6.8b Growth Rate of FDI, Domestic Investment and Foreign Exchange Gap (Eastern Region)

YEAR	1995	2000	2005	2010
FDI GRT	-39.063842	125.46853	-0.62325	484.9685
K GRT	-5.2997672	102.87886	87.50739	50.87867
FXG	-2.751E+09	-3.21E+09	-6.7E+09	-1.3E+10

Source: Survey data from the study (2013)

Table A6.8c Growth Rate of FDI, Domestic Investment and Foreign Exchange Gap (Northern Region)

YEAR	1995	2000	2005	2010
FDI GRT	-39.17942	160.8456	305.7158	23.51112
K GRT	4.0375852	16.91654	34.99404	38.70905
FXG	-1.07E+10	6.64E+09	2.71E+10	6.5E+09

Source: Survey data from the study (2013)

Table A6.8d Growth Rate of FDI, Domestic Investment and Foreign Exchange Gap (Southern Region)

YEAR	1995	2000	2005	2010
FDI GRT	-1447.602	-29.5208	486.148723	-67.37162
K GRT	18.116869	13.84078	42.4236845	38.76992
FXG	-3.67E+09	-5.5E+07	-1.083E+10	1.74E+10

Source: Survey data from the study (2013)

Table A6.8e Growth Rate of FDI, Domestic Investment and Foreign Exchange Gap (Western Region)

YEAR	1995	2000	2005	2010
FDI GRT	-3.91069	19.63022	270.4176	44.179002
K GRT	4.292009	21.29127	36.1378	35.661899
FXG	3.33E+09	1.05E+10	2.4E+10	3.359E+10

Source: Survey data from the study (2013)

APPENDIX VII: Estimated Result of Economic Development Model

Table A7.1 Sample Result on Economic Development Model

Source	SS	df	MS	Number of obs = 672
Model	748.692101	50	14.973842	F (50, 621) = 552.24
Residual	16.8382527	621	0.027114739	Prob > F = 0.0000
Total	765.530354	671	1.14087981	R-squared = 0.9780
				Adj R-squared = 0.9762
				Root MSE = 0.16467

Lngdpk	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Lnfdi	0.0126435	0.005508	2.30	0.022	0.001827	0.0234601
Lnl	-0.1562243	0.1145121	-1.36	0.173	-0.3811021	0.0686535
lnk	1.068075	0.045203	23.63	0.000	0.9793056	1.156844
Lnto	-0.2353202	0.0335139	-7.02	0.000	-0.3011345	-0.1695058
Lnt	-0.0154752	0.0040706	-3.80	0.000	-0.0234689	-0.0074815
Lnroi	-1.062719	0.0491416	-21.63	0.000	-1.159223	-0.9662153
lnm2	0.2388048	0.0170662	13.99	0.000	0.2052904	0.2723192
Lncrpt	-0.0026229	0.0260737	-0.10	0.920	-.0538263	0.0485805
Lninflt	0.0014416	0.0033874	0.43	0.671	-0.0052105	0.0080937
Lngovtcons	0.0791989	0.0232878	3.40	0.001	0.0334666	0.1249313
Lninfrst	-0.0580395	0.0208138	-2.79	0.005	-0.0989135	-0.0171654
Lnexr	-0.2587945	0.0167173	-15.48	0.000	-0.2916237	-0.2259652
icountry1	1.464689	0.1912359	7.66	0.000	1.089142	1.840236
icountry2	2.135592	0.1989333	10.74	0.000	1.744929	2.526256
icountry3	1.831499	0.2530383	7.24	0.000	1.334584	2.328413
icountry4	8.11016	0.4258455	19.04	0.000	7.273888	8.946432
icountry5	1.173212	0.1717357	6.83	0.000	0.8359589	1.510465
icountry6	1.622159	0.2087568	7.77	0.000	1.212204	2.032114
icountry7	0.6831024	0.1789616	3.82	0.000	0.3316591	1.034546
icountry8	6.739106	0.5733251	11.75	0.000	5.613216	7.864997
icountry9	2.655162	0.2745764	9.67	0.000	2.115952	3.194373
icountry10	1.438364	0.2127675	6.76	0.000	1.020533	1.856195
icountry11	5.011547	0.5204435	9.63	0.000	3.989505	6.033589
icountry12	(omitted)					
icountry13	2.463071	0.339404	7.26	0.000	1.796552	3.129589
icountry14	0.6271583	0.1862666	3.37	0.001	0.2613696	0.9929469
icountry15	5.493316	0.5241341	10.48	0.000	4.464026	6.522606
icountry16	3.624198	0.1932421	18.75	0.000	3.244711	4.003685
icountry17	4.360712	0.5056445	8.62	0.000	3.367731	5.353692
icountry18	3.420293	0.4627149	7.39	0.000	2.511618	4.328969
icountry19	7.47948	0.4340862	17.23	0.000	6.627025	8.331935
icountry20	7.692449	0.2715716	28.33	0.000	7.159139	8.225759
icountry21	2.085819	0.1370476	15.22	0.000	1.816686	2.354952
icountry22	8.457211	0.4253774	19.88	0.000	7.621859	9.292564
icountry23	7.87999	0.3647554	21.60	0.000	7.163687	8.596294
icountry24	-0.2984839	0.1547903	-1.93	0.054	-0.6024598	0.005492
icountry25	3.78423	0.3759275	10.07	0.000	3.045987	4.522474
icountry26	6.650862	0.4792652	13.88	0.000	5.709685	7.592039
icountry27	4.074334	0.2093277	19.46	0.000	3.663258	4.48541
icountry28	4.398444	0.1848163	23.80	0.000	4.035503	4.761385
icountry29	7.778613	0.4494848	17.31	0.000	6.895919	8.661308
icountry30	-0.3963179	0.092343	-4.29	0.000	-0.5776603	-0.2149755
icountry31	3.252352	0.6923807	4.70	0.000	1.892661	4.612043
icountry32	1.424821	0.2281521	6.25	0.000	0.9767778	1.872864
icountry33	3.561477	0.1849485	19.26	0.000	3.198276	3.924677
icountry34	5.545047	0.2162001	25.65	0.000	5.120476	5.969619
icountry35	8.997056	0.5122317	17.56	0.000	7.99114	10.00297
icountry36	2.528004	0.2744312	9.21	0.000	1.989078	3.066929
icountry37	7.664194	0.3358876	22.82	0.000	7.004581	8.323807
icountry38	-1.089376	0.2405263	-4.53	0.000	-1.56172	-.6170329
icountry39	8.16649	0.3324213	24.57	0.000	7.513684	8.819296
_cons	-24.84581	1.768329	-14.05	0.000	-28.31844	-21.37318

APPENDIX VIII: Income and Regional Classification Sensitivity Checks

Table A8.1
Income Classification Sensitivity Checks

```
      Source |       SS           df       MS              Number of obs =     359
-------------+------------------------------              F (31,   327) = 133.54
       Model | 120.741085    31   3.89487372              Prob > F      = 0.0000
    Residual | 9.53712367 327 0.029165516              R-squared     = 0.9268
-------------+------------------------------              Adj R-squared = 0.9199
       Total | 130.278209   358 .363905612              Root MSE      = 0.17078

------------------------------------------------------------------------------
     Lngdpk |  Coef.          Std. Err.      t       P>|t|       [95% Conf. Interval]
-------------+----------------------------------------------------------------
      Lnfdi | 0.0140999   0.007375      1.91    0.057    -.0004085    .0286082
       Lnl | -0.1278374    0.1912331   -0.67   0.504    -0.5040398    0.2483651
       Lnk |1.181128       0.0796774   14.82   0.000     1.024383     1.337873
      Lnto |-0.2309964     0.0508187  -4.55    0.000    -0.3309693   -0.1310236
       Lnt |-0.025297       0.0056762  -4.46    0.000    -0.0364634   -0.0141305
      Lnroi |-1.162504     0.0878388  -13.23   0.000    -1.335304    -0.9897033
      lnm2 |0.1599356     0.0215512   7.42     0.000     0.1175392    0.202332
     Lncrpt |-0.1085178    0.0700996   -1.55    0.123    -0.2464209    0.0293854
    Lninflt |-0.0203149    0.0101358   -2.00    0.046    -0.0402545   -0.0003752
  Lngovtcons |0.0914594 0.0290597    3.15    0.002     0.0342919    0.1486268
   Lninfrst |-0.0015395    0.0293139   -0.05   0.958    -0.0592072    0.0561281
      Lnexr |-0.18312       0.0211792   -8.65   0.000    -0.2247846   -0.1414553
   icountry1 |-1.315633    0.7661137   -1.72   0.087    -2.822767      0.1915
   icountry2 |-1.985304    0.9195836   -2.16   0.032     -3.79435     -0.1762575
   icountry3 |-1.491417    0.8539313   -1.75   0.082    -3.171309      0.1884751
   icountry4 |-0.3908559  0.7458366   -0.52   0.601    -1.858099      1.076387
   icountry5 |-1.719643    0.837715    -2.05   0.041    -3.367634     -0.0716522
   icountry6 |2.03577       0.3710335    5.49   0.000     1.305856     2.765684
   icountry7 |-3.058894    1.179512     -2.59   0.010    -5.379283     -0.738505
   icountry8 |-2.63318     0.8864396    -2.97   0.003    -4.377025     -0.8893364
   icountry9 |4.819151     0.6674725    7.22    0.000     3.506069     6.132233
  icountry10 |5.258372    1.148568      4.58    0.000     2.998857     7.517887
  icountry11 |-0.8859627 1.046802     -0.85    0.398    -2.945279     1.173353
  icountry12 | -3.568494   0.9397073   -3.80   0.000    -5.417128    -1.719859
  icountry13 |0.7674675   0.5771802   1.33     0.185    -0.3679874    1.902922
  icountry14 |1.666028     1.081121    1.54     0.124    -0.4608021    3.792858
  icountry15 | -3.531484  1.21797     -2.90    0.004     -5.92753     -1.135439
  icountry16 | (omitted)
  icountry17 | -1.784286  0.8096668   -2.20   0.028      -3.3771     -0.1914734
  icountry18 | -0.5776562 0.7397553    -0.78   0.435    -2.032936     0.8776238
  icountry19 |-4.518848    0.806007    -5.61   0.000    -6.104461    -2.933235
  icountry20 |5.871244      1.107721    5.30    0.000     3.692086     8.050402
        _cons |-23.41884    1.869986   -12.52   0.000    -27.09756    -19.74012
------------------------------------------------------------------------------
```

Table A8.2
Regional Classification Sensitivity

Source	SS	df	MS	Number of obs = 171
Model	147.133201	20	7.35666004	F (20, 150) = 439.22
Residual	2.5123867	150	0.016749245	Prob > F = 0.0000
Total	149.645588	170	0.880268162	R-squared = 0.9832
				Adj R-squared = 0.9810
				Root MSE = 0.12942

Lngdpk	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Lnfdi	0.0146615	0.0073672	1.99	0.048	0.0001046	0.0292185
Lnl	0.4340646	0.1961563	2.21	0.028	0.0464784	0.8216509
Lnk	0.972953	0.0939538	10.36	0.000	0.7873091	1.158597
Lnto	-0.414046	0.0640692	-6.46	0.000	-0.5406406	-0.2874514
Lnt	-0.0059584	0.0078835	-0.76	0.451	-0.0215355	0.0096187
Lnroi	-0.8068681	0.1049075	-7.69	0.000	-1.014155	-0.5995809
lnm2	0.1212674	0.0196942	6.16	0.000	0.0823535	0.1601813
Lncrpt	0.1355681	0.0897196	1.51	0.133	-0.0417093	0.3128455
Lninflt	-0.0044649	0.0130388	-0.34	0.733	-0.0302282	0.0212984
Lngovtcons	0.1964686	0.060372	3.25	0.001	0.0771793	0.315758
Lninfrst	-0.0965544	0.0451219	-2.14	0.034	-0.185711	-0.0073978
Lnexr	-0.3805888	0.0420217	-9.06	0.000	-0.4636197	-0.2975578
icountry1	-5.629439	0.4492199	-12.53	0.000	-6.517055	-4.741824
icountry2	-0.6548341	0.7242402	-0.90	0.367	-2.085864	0.776196
icountry3	-0.4083553	0.6830935	-0.60	0.551	-1.758083	0.9413727
icountry4	-6.089892	0.400954	-15.19	0.000	-6.882139	-5.297645
icountry5	-7.717391	0.5486084	-14.07	0.000	-8.80139	-6.633393
icountry6	0.2605448	0.620657	0.42	0.675	-0.9658147	1.486904
icountry7	-4.0183	0.240804	-16.69	0.000	-4.494106	-3.542494
icountry8	-8.026984	0.6520884	-12.31	0.000	-9.315449	-6.738519
icountry9	(omitted)					
_cons	-23.47909	2.764998	-8.49	0.000	-28.94246	-18.01571